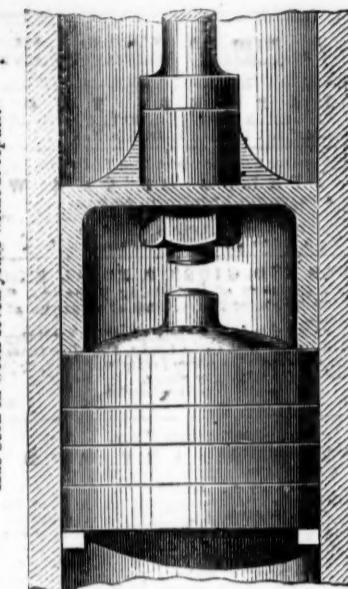


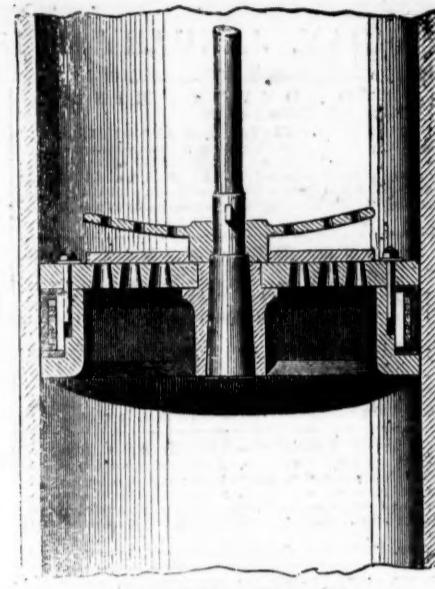


# MATHER AND PLATT MILLWRIGHTS, ENGINEERS, AND MACHINE MAKERS, Salford Iron Works, Manchester.



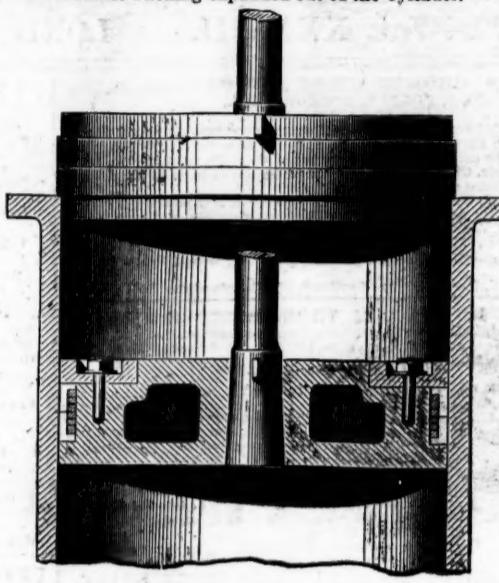
Has been in work seven years without repair.

Lift 348 feet.



AIR-PUMP BUCKET.

Metallic Packing expanded out of the Cylinder.



PISTON IN THE CYLINDER.

MATHER and PLATT beg to call the attention of ENGINEERS and USERS of STEAM POWER to their PATENT PISTONS, AIR PUMP BUCKETS, and COLD WATER PUMPS. The estimation in which these Pistons, &c., are held is shown by the fact that 4760 have been made, as well as by the following Testimonials from gentlemen whose large experience and extensive practice enable them to judge of their qualifications:—

"GENTLEMEN,—During the last 19 years, commencing in 1848, I have put in upwards of 33 of your patent metallic pistons and pump-buckets, into 49 engines and 20 pumps, under my care at the Bridgewater Trustees' Collieries. I can bear testimony to the very efficient and economical working of the same, and feel confident that with ordinary care they will give general satisfaction, wherever brought into use, possessing, as they do, many practical advantages over other pistons and buckets, being simple, durable, and effective. I have one piston (No. 671) which has been working daily for more than 15 years, one (No. 1586) 10 years, and one (No. 2246) over 7 years, without cost of repairs or trouble of any kind, except occasional cleaning. The smooth and highly polished condition of the cylinders during this length of time convinces me that the action of the metallic packing is so equable and perfect as to render the piston steam-tight and self-adjusting, without producing any appreciable friction. I have had two of your patent metallic pump-buckets working daily for over seven years, one lifting 300 feet, and one 348 feet, and both are yet performing good duty. I am now putting in one of 10 inches diameter patent buckets, to work 10 strokes, of 8 feet 4 inches per minute, under a pressure of 12 atmospheres, and feel confident of success, thus showing the superiority over other buckets, more especially where long lifts and simplicity are required. I herewith hand you an order for a 53-inch diameter piston and rod complete, also air-pump bucket, 26½ inches diameter, and rod complete. Hoping you will forward the same to these collieries as early as practicable,

"Messrs. Mather and Platt, Salford Ironworks, Manchester."

"Bridgewater Collieries, Walkden, Bolton-le-Moors, October 26, 1867.

"GENTLEMEN,—I have ordered direct, or included in specifications of engines which I have prepared, upwards of 100 of your pistons and buckets, between the years 1850 and 1867, and I feel convinced they are the best pistons that have come under my notice, and if any proof was wanting as to my opinion of them, it may be found in the fact of my ordering the last 70 inch piston from you for our present works.

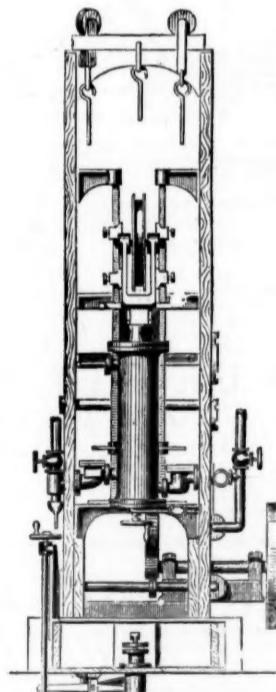
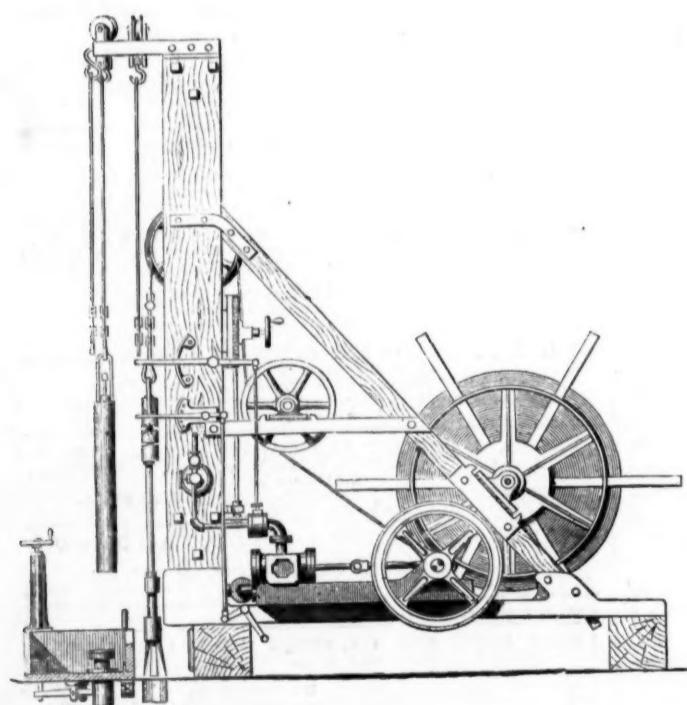
"I remain, Gentlemen, yours truly,

"JESSE TIMMINE, Colliery Engineer.

"Frampton Cottrell, near Bristol, October 31, 1867.

"WILLIAM BAILEY.

"Messrs. Mather and Platt, Salford Ironworks, Manchester."



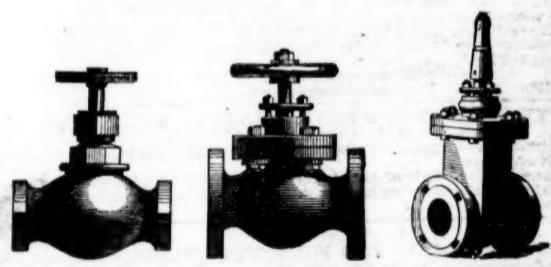
## IMPROVED PATENT EARTH BORING MACHINES.

A considerable number of these Machines has been in most successful operation for some years in exploring for minerals and coal and the boring of Artesian wells, for supplying many towns, manufactoryes, &c., with water. Upwards of 50 bore-holes, from 6 in. to 24 in. diameter, representing in all 20,000 ft. of boring, have been sunk in various parts of the world, through rocks of every form and degree of hardness, from the New Red Sandstone to the Igneous formations, as well as Chalk and the London Clay.

The Machine is worked entirely by steam-power, requiring a small boiler, from 6 to 12 horse power, according to diameter of the bore-holes. The framing is made of wood, to render the Machine of easy transport.

The rate of boring is not appreciably decreased as the depth increases, as a flat rope is used in place of rods in the old system.

M. and P. beg to call attention to their Revised List of Prices of VALVES, TAPS, &c. They also request the notice of Water Companies and Hydraulic Engineers to their IMPROVED SLUICE VALVES for Water. The slides have Gun-metal Facings, are of Wedge form, and when screwed down are tight on both sides:—



GUN METAL TAPS.		CAST IRON STEAM VALVES, WITH GUN METAL VALVES AND SEATINGS.		CAST IRON SLUICE VALVES, WITH GUN METAL FACINGS.	
Bore. Inches.	Price. £ s. d.	Bore. Inches.	Price. £ s. d.	Bore. Inches.	Price. £ s. d.
2	0 4 0	2	1 2 6	2	1 10 0
2½	0 4 6	3	1 17 6	3	2 5 0
3	0 6 0	4	2 15 0	4	3 0 0
3½	0 8 6	5	3 15 0	5	3 16 0
4	0 11 0	6	4 17 0	6	4 14 0
4½	0 14 0	7	6 0 0	7	5 14 0
5	0 18 0	8	7 5 0	8	6 16 0
5½	1 2 6	9	8 15 0	9	8 0 0
6		10	10 10 0	10	9 6 0
6½		11	12 5 0	11	10 14 0
7		12	14 0 0	12	12 4 0

The attention of those interested in Metal Mining is called also to an

## IMPROVED BUDDLE, OR ORE WASHING MACHINE

Which they believe will be found of great benefit

TERMS AND PARTICULARS CAN BE HAD ON APPLICATION.

PARIS EXHIBITION, 1867.—AWARDED THE ONLY FIRST-CLASS MEDAL FOR CRUCIBLES. SILVER MEDALS, CLASSES 40—51.

## THE PATENT PLUMBAGO CRUCIBLE COMPANY,

SOLE MANUFACTURERS UNDER MORGAN'S PATENT,

BATTERSEA WORKS, LONDON, S.W.

*These Crucibles (MORGAN'S PATENT) were the only ones to which Prize Medals were awarded in London, 1862; Dublin 1865; New Zealand, 1865; and Oporto, 1865.**"It follows, with the persistence of a law, that originators should be beset by imitators, just as in the natural world the finest organic forms are most liable to parasitical growth."—Miss METEYARD'S Life of Josiah Wedgwood, the Potter.*

MORGAN'S PATENT CRUCIBLES can be made any shape or size required, and are stamped as below:—



Having secured new Patents for our  
Manufacture, and to prevent fraudulent

Imitations, we call particular attention  
to our Trade Mark, as here shown.

In all instances please specify "MORGAN'S PATENT" and address to—

BATTERSEA WORKS, LONDON, S.W.

## ANTI-ATTRITION POWDER,

MANUFACTURED SOLELY BY

## THE PATENT PLUMBAGO CRUCIBLE COMPANY,

BATTERSEA WORKS, LONDON, S.W.

PARIS EXHIBITION—Exhibited in Group V., Class 40; Silver Medals awarded, Classes 40 and 47.

This POWDER mixed with grease makes a cheap and good lubricant—one part grease (tallow) to two parts of the Anti-Attrition Powder,—and is suitable for all kinds of bearings.

The following is extracted from the "Practical Mechanics' Journal":—

"The Patent Plumbago Crucible Company, of Battersea Works, have recently brought out a dry lubricant in the form of a peculiarly prepared impalpable powder, as a substitute for oil or other fluid or semi-fluid lubricants. It is perfectly free from grit, and imparts a fine polish to the rubbing surfaces. The great objections to oil and grease are that they readily catch and retain particles of dust and gritty matter, which, by becoming embedded in the metal, produce abrasion and heating of the parts. The Anti-Attrition Powder is perfectly free from these defects; it is cleanly, and adheres well to the surface of the metal, entirely filling up the pores. It is equally applicable to slow or quick running shafts, and forms an excellent lubricant for the interiors of the cylinders of blowing-engines. It is being used by several well-known firms, amongst which we may mention the Ebbw Vale Company, and Platt Brothers and Co., and has given great satisfaction. We should think Pianoforte Makers would find this an excellent substitute for the black-lead at present used in smoothing the working parts of a pianoforte action, the Anti-Attrition Powder being apparently well adapted for woodwork. It also forms an excellent medium for dusting the surfaces of moulds and castings."

PRICE ..... 30s. PER CWT.

SAMPLES ON APPLICATION TO

## THE PATENT PLUMBAGO CRUCIBLE COMPANY,

Sole Manufacturers under MORGAN'S PATENT,

BATTERSEA WORKS, LONDON, S.W.

## J. JACKSON AND CO., ENGINEERS, LONDON, E.C.

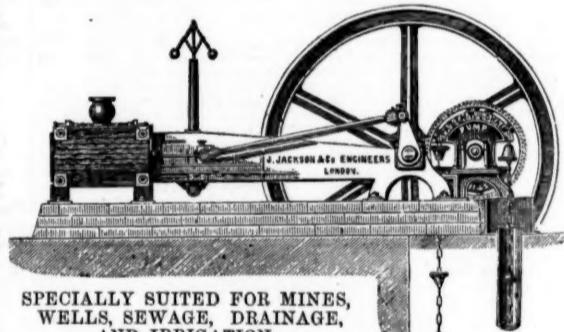
## BASTIER'S PATENT CHAIN PUMP.

This is the most efficient pump ever introduced to public notice for deep vertical lifts. It is cheap in its first cost, requires no cleaning and little attention, and the cost of maintaining it with duplicate wearing parts is very small.

The water is lifted through vertical tubes. At every interval of 0 yards a contracted part, or working barrel, is inserted, smaller in diameter than the main pipe, one of which is always placed at the lower end. An endless chain passes over the driving wheel at the top, going down free, and coming up through the tube, into which it enters by a bell-shaped mouth-piece. On this chain are fixed indiarubber discs, smaller in diameter than the main pipe, but fitting tight in the working barrels, so that all the water that enters is forced up and carried through the main pipe. The discs being free all round from the pipe for nine-tenths of the whole distance, reduces the friction to a minimum.

Eighty-seven per cent. of the whole area of the tube is lifted in water. A 3½ in. pump has lifted 120 gallons per minute, from a depth of 270 ft., with 10·75 indicated horse power; other sizes in proportion. These pumps are now at work throughout England, sizes varying from 2½ to 15 in. diameter, and up to 300 ft. deep.

A SMALL PUMP MAY BE SEEN AT WORK ON APPLICATION TO MESSRS. J. H. GREENER AND CO., 5, JOHN STREET, ADELPHI, W.C., WHO WILL ALSO SUPPLY ANY INFORMATION REQUIRED.

SPECIALLY SUITED FOR MINES,  
WELLS, SEWAGE, DRAINAGE,  
AND IRRIGATION.PUMPS WITH STEAM ENGINES, AND CATTLE,  
WIND, OR HAND-POWER GEAR,  
Manufactured by the proprietors of the patent,J. JACKSON AND CO.,  
17, GRACECHURCH STREET, LONDON, E.C.  
PRICE LISTS ON APPLICATION.FOR THE COUNTIES OF NORTHUMBERLAND, DURHAM, YORK,  
DERBY, AND NORTH STAFFORD, APPLY TOMR. THOMAS GREENER,  
MINING OFFICE, NORTHGATE, DARLINGTON:  
AGENTS FOR SCOTLAND,  
MESSRS. P. AND W. MACLELLAN,  
127 and 129, TRONGATE, GLASGOW.

### PATENT FLEXIBLE TUBING, AND BRATTICE CLOTH FOR MINES

MANUFACTURED BY  
ELLIS LEVER,  
WEST GORTON WORKS, MANCHESTER.

THE NEW PATENT INJECTOR,  
FOR FEEDING BOILERS AND RAISING WATER FOR OTHER PURPOSES.

Size.	Ram. in.	Stroke. in.	Approx. horse-power boiler supplied.	PRICES, DELIVERED IN LONDON.		
				At 100 rev.	150 rev.	200 rev. p. min.
No. 4	1½	3	15	115	172	230
5	1½	3	22	180	270	360
6	1½	4	30	240	360	480
7	2¼	4	40	345	517	690
8	2¼	5½	55	475	712	950
9	2½	5½	75	585	877	1170
10	2½	6½	90	720	1080	1440
11	2½	6½	110	870	1305	1740
12	2¾	8	120	1080	1545	2060
14	3	8	230	2450	3675	—
16	3¼	8	460	4900	7350	—

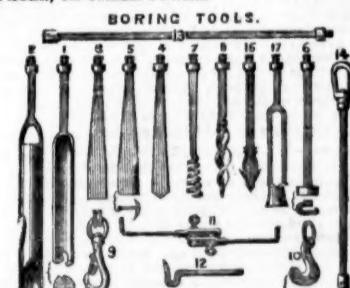
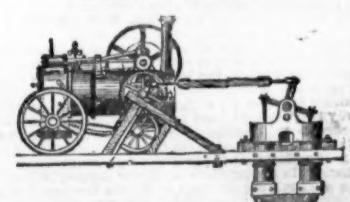
\* The two last are double-acting.

Steam Regulator Valves, and also Check Valves, specially made to suit these Engines, can be supplied.

Terms: Nett Cash on Delivery.

A CIRCULAR, WITH FULL EXPLANATION AND COMPARISONS, WILL BE SENT ON  
APPLICATION.BROWN, WILSON, AND CO.,  
No. 80, CANNON STREET, E.C.; AND VAUXHALL IRON WORKS, LONDON, S.

S. OWENS AND CO. (LATE CLINTON AND OWENS),  
WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.,  
HYDRAULIC AND GENERAL ENGINEERS,  
MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION FOR HAND,  
HORSE, WATER, OR STEAM POWER.

Boring Tools of every description, for Testing  
Ground and for Artesian Wells.Portable Engines with Double Barrel, or other  
Pumps, on Hire or Purchase.

Improved Double-action Pump.  
Full Information, Drawings, Price Lists, &c., relating to the above, and to Hydraulic  
Machinery of all descriptions—Crabs, Pulleys, Blocks, and Hoisting Tackles of superior  
manufacture—may be had on application.

## Meetings of Public Companies.

LLANBERIS SLATE COMPANY.  
The annual general meeting of shareholders was held at the company's offices, Sise-lane, Bucklersbury, on Tuesday,  
Mr. HENRY HAYMEN in the chair.

Mr. W. FLETCHER, jun. (the secretary) having read the notice convening the meeting, the directors' report was read, as follows:—

The directors consider it expedient to make an entire change in the system hitherto pursued of working the quarry, and desire, therefore, to make its proprietors fully acquainted with the reasons for taking this important step. Feeling very dissatisfied with the slow progress made, and the failure in the estimated and predictions of the late resident engineer, Mr. Emerson, the directors instituted a searching investigation into the cause, and arrived at the conclusion that the capital of the company would not suffice to complete the works necessary before the open workings could yield a profit. The dead-work not only proved to be very much heavier than had been anticipated, but when the floors were cleared it was found that the slate rock reached had been so much affected by weather action, that the slate made would not pay their cost. This latter fact would have been discovered much earlier, but for the circumstance that the greater part of the cost of winning the slate rock had been improperly placed in the dead-work account, thus conveying the impression to the directors that the slates produced were made at a profit. Several months back the attention of the board had been directed to the tunnelling machine patented by Messrs. Cooke and Hunter, and the directors, therefore, deputed their colleague, Mr. Elliott, who had strongly advocated its employment, to watch its action. The tunnelling machine having been practically tested at the Maen Offeren Quarry, it was proved capable of forming a tunnel 7 ft. in diameter at the rate forward of 9 feet per diem, and of producing in its progress a large proportion of rock available for slate making. According to the calculations made by the patentees, the process of making a tunnel on their system, through good slate rock, leaves a large profit on the operation, in addition to the prospective returns to be obtained from the mass of rock thus unrooted. To form such a tunnel by hand labour would cost 4*t*. per yard forward, occupy sixfold time, and waste the whole of the slate excavated. The time and cost that must be expended in any attempt to work the quarry by hand chambering seemed thus to place that method beyond the means of the company. Mr. Griffith Ellis having again inspected the quarry, and stated that the appearance of the rock was very promising, and a trial tunnel on No. 9 floor into some depth having yielded excellent slate rock, the directors felt assured that satisfactory results would be obtained if by any means they could win the rock, of which there appears to be an inexhaustible quantity. At the depth it was proved to be free from those injurious influences which rendered the outcrop unprofitable. Negotiations were, therefore, opened with Messrs. Cooke and Hunter, who at first asked a considerable sum for the license of each machine, and a heavy royalty on the slates produced. On inspecting the quarry, and satisfying themselves of the great quantity and excellent quality of the rock it contained, these gentlemen offered to waive all claim for licenses and royalty in consideration of 1800 shares being allotted to them, 4*t*. 10*s*. per share being considered as paid on each share, leaving Messrs. Cooke and Hunter with a liability of 1600*t*, which they agree to pay as follows:—160*t*. down, and 960*t*. towards redeeming the debentures in June, 1869. As it was most important to lose no time, this proposal was accepted by the directors, and the first machine ordered, which is now at the quarry, and has commenced work. Admitting that the slate rock in depth answers to the indications obtained, the directors entertain little doubt that by the aid of the tunnelling machines the quarry will soon be converted into a very valuable property. Heavy and unsatisfactory as the outcrop hitherto has proved, a good deal of the work done hereafter will be turned to good account, and the interest on the whole cost, inclusive of the purchase of the freehold, will not exceed the royalty that would be required under a leasehold on the quantity of slates likely to be produced. Under the circumstances of the past year, the directors, whose own stake in the company is so large, have felt deeply their responsibility to the shareholders, whose interests they claim to have studied most carefully, and trust to have served effectively. The proprietors will remember that in April last, in order that the working of the quarry should not be stopped for want of funds, they obtained the consent of the shareholders to issue debentures. These debentures were offered to the shareholders, but only 950*t*. were subscribed for, and the directors, to help the company, then took up 6100*t*. There are still 2650*t*. of these debentures unissued, and the directors trust the shareholders will come forward and aid them in carrying on the works by taking up their proportion. The directors are happy to be able to inform the shareholders that one of the patentees of the tunnelling machine, William Fothergill Cooke, Esq., whose name is so well-known to the world as the inventor of the electric telegraph, has consented to join the board.

The CHAIRMAN, in moving the adoption of the report, said that it fully explained all that had been done for the year. At the last meeting Mr. Emerson, their then manager, promised certain things which had not been carried out, since which the agreement with that gentleman had been cancelled. The board had also had considerable financial difficulties to contend with, two shareholders only coming forward to assist in taking up the debentures; but the directors, not having lost faith in the property, had subscribed 6400*t*. Their colleague, Mr. Elliott, had undertaken to visit the quarry monthly and superintend its working, and by the aid of Messrs. Cooke and Hunter's tunnelling machine, which saved the slate through which it cut, and which under the present mode of working was wasted in blasting, the slate rock would become of commercial value to the company. The directors hoped that at the next meeting they would have to report a very different state of affairs.

Mr. J. ELLIOTT fully bore out all that had been stated respecting the manner in which the quarry had been worked by their late manager, Mr. Emerson. At the same time, he was much pleased with the working of Messrs. Cooke and Hunter's machine, and which he (Mr. Elliott) fully believed would enable them to make a good profit directly they got into the productive slate rock.

Mr. W. F. COOKE, having explained the working of the tunnelling machine, said that he had great faith in the value of the property, and to test its value had not hesitated to embark his money in it.

The CHAIRMAN, in reply to a shareholder, entered fully into the matter between Mr. Emerson and the board.

The report and accounts were received and adopted. Messrs. Quilter, Ball, and Co. were re-elected auditors, and a vote of thanks to the Chairman terminated the proceedings.

## BRAZILIAN LAND AND MINING COMPANY.

A general meeting of shareholders was held at the offices, Poultry, on Tuesday.—Mr. SAMUEL GURNEY SHEPPARD in the chair.

Mr. CHARLES WILLIAMS (the secretary) read the notice convening the meeting.

The report of the directors regretted that up to the present time Mr. J. P. Brown, the receiver and manager of the National Brazilian Mining Association (appointed by an order of the Court of Chancery), had had no opportunity at present of realising any of the property of the association for the benefit of the mortgagees (the Brazilian Land and Mining Company); also that negotiations had been pending for a very considerable period for the sale of the Roraima estate, and in consequence of those not being completed, the shareholders have not been called together, as the directors felt it necessary to do so until they could lay before them something of a more definite character. In the last report it was stated that hopes were entertained that the directors of this company would be enabled to make arrangements for the purchase of such outstanding debts as have been already proved against the National Brazilian Mining Association; but in the absence of remittances from Mr. Brown, either for this or any other purpose, it has not been in their power to effect this very desirable object. The receiver and manager for the last two years and a half have been employing all his available resources in clearing out and sinking Irving's shaft, of the Serra Velha Mine at Cocais, so as to reach the workings destroyed by the great crush in 1851, and from which the receiver and manager asserts that gold to the value of 100,000*t*. will have been extracted formerly; these works have, however, been carried on very slowly and under great difficulties, from the want of proper mining machinery. A full description of this mine, and the prospects held out by Capt. Vivian, if the operations are vigorously carried on, will be found annexed to this report. Mr. Brown, in his recent despatches, has urged upon the directors the necessity of sending over pumping apparatus and mining machinery, which would probably involve an outlay of 1600*t*. but without funds this is impracticable. He has also strongly urged upon the directors the importance of appealing to the shareholders of this company, as mortgagees, to aid him with the requisite funds for keeping the mine open, and thus prevent the lease from falling into the hands of the freeholder. According to the estimate it appears that a sum of 5000*t*. will be required, and a period of about a year must elapse before the mine can be expected to produce an adequate return of gold. The directors are of opinion that should the proposal to raise further capital be approved, it should take the form of preference shares, bearing a fixed interest, and have prepared a resolution accordingly, which will be submitted for consideration at the special general meeting, convened for that purpose. The directors are desirous of the assistance of the shareholders by the nomination of two gentlemen, holding the necessary qualification, being elected members of the board.

The CHAIRMAN said his first duty was to move the adoption of the report.—Mr. CLOTHIER thought it was desirable to read the minutes of the last meeting, so that the shareholders might know what took place.—The CHAIRMAN said there could be no possible objection to that being done. The directors had been unable to get any money at all from Brazil, so that their position had been one of great anxiety indeed. They had advanced money, and now felt themselves in a very difficult position, for the receiver and manager in Brazil informed them that they must either proceed with the development of the Serra Velha Mine or give it up. Feeling a good deal of anxiety, they determined to call the shareholders together, to ascertain their opinion as to the most advisable course to pursue. If shareholders were desirous of subscribing the necessary additional capital, the directors—who held a considerable interest in the company,—believed, were prepared to find their proportion; but at the same time, as he was personally concerned, he certainly did not see much to encourage the adoption of such a course. The expenditure of a certain amount of money for the purposes of prospecting, as sanctioned by the shareholders, had not produced any satisfactory result, but now it was made out, according to the reports, that the gold would soon be reached. He was unable to express any opinion upon the subject; and this was the feeling which had actuated his colleagues upon the board in calling the shareholders together upon the present occasion—they felt they ought not to take upon themselves the responsibility of refusing to find the necessary capital, for if the property subsequently got into the hands of other people, who might develop it upon a more extensive scale, and prove it to be another St. John del Rey, the shareholders would probably turn round, and ask why they had not been consulted upon such an important point. He then proceeded to read extracts from Mr. J. P. Brown (the receiver and manager of the National Brazilian Mining Association) upon the Serra Velha Mine. They were to the effect that the property was situated in the eastern section of the Coqueiros Estate, in the province of Minas Geraes, in Brazil, and in the very centre of the gold mining district; and that formation was composed of micaceous iron schist, called "Jacutinga," and was nearly identical with that of Gongo Soco, on the same range of mountains, from which gold to the value of 1,000,000*t*.

had been extracted. In the same kind of rock, and in the same mountain range, nearly all the rich Jacutinga mines in Brazil have been found. The Jacutinga contains lines of gold, and these again containing rich shoots, dipping easterly, at an angle of 30°, have occasionally produced many pounds of gold per day. There is upwards of a mile of virgin Jacutinga formation unexplored to the east of the shallow adit. A discovery of a shoot of gold in this ground, such as was formerly made in the shallow adit, would yield as gratifying results as the recent discovery at the Don Pedro North del Rey, which is a similar formation, and at once place Cocais in the list of dividend-paying mines. From 1846 to 1851 a shallow adit was driven upon the ledge, and a shaft called Irving's shaft, sunk to about 20 fathoms vertically below it. In the latter year a great crush took place, carrying away the pumping-gear, choking up the engine-shaft, and filling the level with fallen rocks and stones. The excavations in depth are supposed to be uninjured, as the crush took place beyond the inclined plane leading to the bottom of the works. It is certain that gold was left in sight in two of the stonethes. When the receiver and manager removed his force to Cocais, two years and a half ago, he commenced, under Captain Vivian's advice, to clear out the shallow adit, and more recently to sink Irving's shaft, so as to cut the ledge in depth: this shaft has been properly timbered and secured to the depth of 78 feet from the horizon of the shallow adit. The bottom of the shaft is now in the ledge, from which most favourable samples have been taken, indicating richer deposits, and to carry on the works machinery is required, and an expenditure must be incurred to the amount of about 5000*t*. He also read Captain Nicholas Vivian's report upon the Serra Velha Mine, and the manner in which he proposed to work it, should the receiver and manager of the National Brazilian Mining Association receive an advance from this company for that purpose. He had been employed in this mine for the last two years and a half, during which time a great deal of dead work had been done, and no less than 1355 loads of timber have been put into the mine, and well secured. Irving's shaft has been sunk 78 feet from the horizon of the shallow adit, and now it is with much pleasure he had to report that the bottom of the shaft has cut into the formation, and the same showing a little gold. If the shaft were sunk a little deeper, to intersect the foot-wall, no doubt the stone would be of better quality, as it has always been the case in Cocais; and at the same time they would be in a position to cut into Hartley's and Hamilton's stopes, from which the 15 heads of stamps could be supplied, and regular gold returns would be forthcoming. In addition to this work, he proposed driving a level west to cut the vein of gold which are known to exist. The Cocais Mine was never in a better position than it is at the present moment, and it would be a great pity that it should be abandoned, and he should recommend the company to try further, as there is sure to be gold. To carry out the works it would require four English miners, one smith, and one carpenter; also some materials taken out from England. The whole cost in putting the mine in good position would be 5000*t*, and the work could be completed in 10 months.

Mr. JOYCE, notwithstanding what might be reported by Mr. Brown and Capt. Vivian, would support no proposition other than that the company should be forthwith wound-up.

The CHAIRMAN, having read the minutes of the last meeting, explained that the directors had been unable to buy the claims therein referred to, for the simple reason, they had had no funds. This company was in the position of mortgagors of the property, and their claim as such amounted to 6400*t*. Their position in Brazil was rather a difficult one, inasmuch as they had nobody there to represent them but Mr. Brown.

Mr. CLOTHIER said there were two or three items in the balance-sheet which seemed to require explanation. He proceeded to point out the items he referred to, which were explained by the secretary.

The CHAIRMAN, in further explanation, said that the item of loans had been paid off, and it did not appear because it was mixed up with the affairs of the National Brazilian Mining Association. It would be recollect that a resolution was come to at a special meeting which authorised the directors to buy up certain claims for 1240*t*, and one of the securities bought up was a lease of a house in Throgmorton-street, which the directors subsequently sold for 3500*t*, and that was employed for the paying off the 1200*t* advanced to buy up the claims of the Commercial Bank, as well as other claims, the balance being paid into the Court of Chancery, where it was at the present time. The difficulty had crept in originally, and, therefore, there had been great difficulty in presenting a proper report and balance-sheet of the Brazilian Land and Mining Company. There had been some difficulty in disconnecting the accounts of the two concerns. They were not only mortgagees of the National Brazilian Mining Association, but they were interested as shareholders in the Cocais Company.

After a lengthened discussion, it was suggested that an adjournment be agreed upon, to afford those of the shareholders who desired it an opportunity of examining the accounts as sent home by Mr. Brown, an abstract of which is to be prepared by the secretary.

The suggestion was adopted, and the meeting was adjourned till Jan. 31, as was also the extraordinary meeting, convened for the purpose of considering the propriety of raising addition capital.

A unanimous vote of thanks was passed to the Chairman, when the meeting separated.

## THE RUSSIAN (VYKSOUNSKY) IRONWORKS COMPANY.

The annual general meeting of shareholders was held at the offices, Pinner's-hall, Old Broad-street, on Tuesday,

Mr. W. AUSTIN in the chair.

Mr. COURtenay CLARKE (the secretary) read the notice convening the meeting. The report of the directors (extracts from which appeared in last week's Journal) states that the company are earning very considerable profits, and would be able to pay an increased dividend to the shareholders, were they not under the necessity of providing for the repayment of the debentures within a limited period; and this, without reckoning on the additional profit likely to be made from the Government rail contract and the Koulabak property. An important contract has been entered into with the Russian Government for the manufacture of 5,000,000 poods, or about 80,000 tons, of rails, at a price of 1 route 47 kopecks per pood, or about 12*t*. 2*s*. per ton, deliverable at Moscow. A careful estimate shows that this will leave the company a fair rate of profit. The delivery will extend over 10 years, and the Imperial Government advances sufficient funds to supply the necessary machinery for the manufacture of the rails. While this contract is likely to be extremely valuable to the company, it will be no less so to the Russian Government, for everyone conversant with the subject will know that the rails manufactured by this company will last twice or three times as long as any seaborne rails which would come into competition with them. The Imperial Government has also liberally granted, on fair terms, the privilege of cutting wood in the Government forests in the neighbourhood of the works; and this concession has placed the company at ease as to the supply of that necessary article. The increased supply of iron required for the rail contract has induced the directors to accept a lease, for a term of 36 years, of the mineral property of Koulabak and Moorsitsa, containing about 3000 dessalatines, or 8100 acres of land, of a royalty of 1 kopeck (about 3*d*) per pood (33 lbs.), and a minimum royalty of 5000 roubles, or about 666*t*. per annum, payable after the blast-furnace shall have commenced work. This profit will also supply the company with a corresponding amount of wood on fair terms. The directors are advised that pig-iron can be made on this property more economically than at Vyksa. It is within 20 miles of the present works; it will supply a large additional quantity of pig-iron, and it is to be remarked that any profit derived from these works will belong exclusively to the company, and will not have to be divided with the lessors of the Vyksa estate. Having regard to the acquisition of this property, it is extremely fortunate that the company has the power, under the Articles of Association, of carrying on works in other places than Vyksa, as this has been the means of enhancing the value of the company's property, and will add very materially to their profits; but the auditors allude to possible legal questions in connection with the company's contract with the late proprietors of the Vyksa property, which may reduce the net profits of the company in respect of those works. At the date of the last general meeting, on Jan. 11, 1867, the Vice-Chancellor Sir Wm. Page Wood, and also the then Lords Justices of Appeal, had decided the points in litigation in favour of many of the dissentient shareholders and against the company. Every step in that litigation was attended with such ruinous expense to the company. In consequence of proceedings being taken in about 150 cases at the same time, that the directors advised, and the general meeting sanctioned, the compromise adopted and approved at the meeting. Since that time the law, as pronounced by the highest courts, has materially varied from that laid down in these cases by Vice-Chancellor Sir Wm. Page Wood and the then Justices of Appeal; and the decisions have been pronounced bad law by the highest courts, but it has inflicted on the shareholders remaining in the company a very grievous injury. Had that decision been given in accordance with the law, the company would now be able to divide a very handsome dividend. All litigation between the company and its shareholders is at an end, and they are in possession of a most valuable property in Russia. It is, however, most desirable, if not actually necessary, to provide for the debentures as they become due, without absorbing, for this purpose, the whole or the greater part of the company's profits. Nearly one-third of the debentures issued became due in January, 1868; one-third in January, 1869; and one-third in January, 1870. Provision has been made for the payment of the instalment due next month, but it is clearly necessary, at an early period, either to make additional calls on the shares of the company, or to issue new capital. The directors have decided to recommend the shareholders to authorise the issue of 11,264 shares of 10*t*. each, with a guaranteed fixed preference interest of 10 per cent. per annum; and as it is more probable that the ordinary shares will earn a dividend beyond 10 per cent., these new shares will have the privilege of conversion into ordinary shares, at the option of the holder, at any time within five years, with the same amount paid as is paid on the preference shares. These preference shares to be offered, in the first instance, to the shareholders, and such as may not be taken by them to be at the disposal of the directors, to issue on such terms as they may think fit, in exchange for debentures, or to the general public.

The CHAIRMAN, in moving the adoption of the report, apologised for the delay which had occurred in the circulation of the accounts and other printed documents. It was intended to post them before, but had not unavoidable circumstances prevented. They had to send out to Russia for vouchers, and there was some slight misunderstanding with the auditors; the directors believed that both auditors were making the examination simultaneously, but subsequently found that they had been working independently, and that one of them had not completed the audit when the directors thought all was ready. They had had the report and accounts prepared in the fullest possible form, and he believed they gave all the information they could desire. As to the contract which had been undertaken for the Russian Government, he might state that if it gives only the ordinary trade profit it will be advantageous to the company. The Russian Government are not only good paymasters, but have also furnished the company with the necessary capital to erect the machinery for making their rails. The value of their Vyksa property was very great, it was established in the last century by Botachoff, who had undertaken the damming up of the water courses, &c., so as to give the works ample water power, which was highly important to them in rendering steam power unnecessary, and had altered the configuration of the country. This was done when serf labour was obtainable; but had it now to be done it would cost more than they had paid for the entire property. They had a most excellent business at Vyksa, and readily found a market in Central Russia for all their pig-iron, bar, and wire, at a remunerative price and for ready money. But he had doubted whether they would have had the means of carrying out their contract with the Russian Government without the Koulabak property, which they had secured upon very good terms. The pig-iron would be produced at Koulabak, and the

rails manufactured therefrom on their original property; the pig would be much cheaper at Koulabak than at Vyksa. The average cost of producing a ton of pig at their other works was 3*t*. 1*s*. 9*d*. whilst at Koulabak, which was within easy reach of their other works, they would make it for 2*t*. 1*s*. 3*d*. The difference of 1*t*. 1*s*. 6*d*. per ton would be an important item in their profits, more especially as the Vyksa profits were divisible with the former proprietors, whilst the Koulabak profits would all belong to the company. As to their legal position, he need only say that had they not been able to go beyond Vyksa, the power compelled of, they would have been compelled to throw up the contract with the Russian Government. As to their financial position, they had cleared off their debt at St. Petersburg, they had reduced their debt to the Bank of London to 1000*t*, and to the London and County Bank to 2500*t*, since the date of the report. The purchase money, which was to have been 60,000*t*, was practically reduced to 40,000*t*, in cash and 20,000*t* in shares, representing 5*t*. paid. As the second call of 5*t*. upon these shares had not been paid, the directors decided upon forfeiting them, as they saw no prospect of recovering the calls upon them. Their general position was far better than it ever had been. During the last two years the directorship had been sinecure, but he was glad to say that litigation had now ceased, they had no pressing debts, and were now at no man's mercy. They had a most valuable property, which is gradually improving, to derive their dividends from. They had earned a large dividend, but it would be imprudent to divide the whole, as they had more for more money than they could get; the directors, therefore, propose to divide 6 per cent. as before, which would leave them something for improvements. He then moved the reception and adoption of the report.

Mr. JOSEPHS carefully analysed the accounts, and observed that the item of 100,000 roubles for buildings and repairs should have been charged to revenue, and not to capital account. He also enquired why the Koulabak property was not charged to revenue? He believed that when all necessary deductions had been made that the 10,000*t* represented as profits would be made very much smaller and drakes of. The management in London cost them 800*t*, yet it appeared to him that they only got about 20,000 roubles profit upon 21 months' working. As to getting accounts from Russia, there might be some difficulties, but he would ask why they could not be kept in duplicate? It was now customary with merchants to ask even for duplicate invoices, that one might be forwarded to the customer and the other kept; and he could see no difficulty in the company adopting a similar course. An increase in expenses, especially in salaries, had been noticed, and he observed that the directors' fees were 4500*t*; he did not wish to see a different board of directors, but he would certainly like to see them accept a smaller amount of remuneration until the shareholders generally got a better return for their money.

The CHAIRMAN explained that the buildings and repairs at Vyksa could not be put against profit and loss; and as to the onlay on the Koulabak property, the same answer would apply. Mr. Josephs must recollect that the 4500*t* directors' fees extended over 2*1/2* years, and he could say was that he would be glad to vacate his seat for anyone who had an equal interest in the company.

Mr. KEMP, auditor, confirmed the Chairman's views. He thought the best evidence of the accounts being liquid was the fact of Mr. Josephs being able to enter so fully into the

could help being struck with the collection of lining tubes in wrought and cast iron, of every size and dimension that could be required, and admirably finished. Lining was effected by a number of materials. Wood, no doubt, was the best for most kinds of water, but the misfortune was that it occupied so large a proportion of the ordinary sized bore-hole, and it had, therefore, been superseded by various sorts of iron. Cast-iron was, also, open to the objection of being too thick; and, besides, it was most rapidly destroyed by several kinds of mineral water. Wrought-iron had been employed, in lengths put together in a telescopic fashion; but in those cases, although they might begin at a good, fair size, the opening might at last become reduced much more than was desirable for the purposes it was intended to serve. The two boring firms at Paris he had already mentioned were remarkable for the beautiful finish of their pipes, which, no doubt, added much to their durability. Galvanised iron was found to give way very much in saline water, which attacked and destroyed the zinc; and in some mineral springs it had been attempted to get rid of the inconveniences of these powers of decomposition by the use of copper and wooden pipes, but, of course, they would be too expensive for ordinary circumstances. The lecturer here exhibited a number of pipes, some new and others which had been taken out of bore-holes for various reasons. The charges for boring depended greatly upon the nature of the rock to be penetrated. In some districts, however, it was pretty well ascertained what the rate would be. In the Newcastle district, for instance, the first 5 fms. would be charged 7s. 6d. per fathom; the next 3 fms., 15s. per fathom; the third 5 fms., 22s. 6d. per fathom, and so on. It was obvious, therefore, that by the time they got down to a depth of 100 fms., making a bore-hole would be a most expensive operation. M. Kind's prices for a hole 12 inches in diameter were as follows:—7s. per metre to a depth of 150 metres, a metre being 32 ft. English; 12s. from 150 to 400 metres deep; 8s. to 400 to 500 metres deep; and beyond that, 12s. per metre. This seemed a tolerable price to give for exploratory purposes in ordinary ground, but if looked into it would not be found to be excessive. He recollects two bore-holes, one of which cost 9s. and the other 12s. per foot, and were eventually given up as a hopeless case. In estimating the cost of an exploration, these prices must be understood as applicable only to special circumstances; and so, in the Newcastle district when the borers came down upon "whin" that formed an exception, and entitled them to extra pay, and thus, as it was not unfrequently happened to architects and engineers, the estimates were exceeded. "Whin," in the parlance of miners, meant any specially hard rock, as well as that known more technically by that name. In operations of this kind it was necessary that the engineer, or master borer, should attend as much as possible to the work himself, or be sure that he has a staunch and true man, otherwise he might find coal where he could least expect it, some being thrown down the hole for that purpose, or run through beds of coal without it being noticed,—a piece of carelessness of which he knew a gross case, the bed so passed through without notice being 6 feet in thickness.

**LECTURE XVI.**—In the last and preceding lectures Mr. SMYTH had brought before the students the way of testing the ground to great depths without placing men beneath the surface, and without the necessity of pumping water from the openings made; and they had now, in proceeding to consider operations carried on by manual labour, to ascertain the best way in which the rock or ground was to be attacked. A large proportion of the expense of mining consisted of payments for manual labour, and it was, therefore, of importance to bring to bear the best methods of operation for particular classes of rock. The difficulty of making way through the rock or ground did not always result from its hardness—its condition was a more important element; and here the engineer would have his mineralogical skill tried and tested. It sometimes happened that in certain kinds of rock there was a considerable amount of parallelism, and others were much fissured, and, therefore, in estimating expenses it was often possible to put down a lower figure for breaking the ground than the mere geological name of a rock would seem to justify. It was, therefore, necessary to know something of the physical condition as well as the geological character of the ground. Thus, for the purposes of calculation, the rocks might be divided, so far as mining went, into five classes, viz.:—

1. Loose or running ground, or "rolling," as it was called in Germany, which meant that if you take away a shovel-full, more would run down than you removed. The difficulty of ground of this sort was not in the working so much as the prevention of the material running down too much, and the necessity of holding it back by walling or timbering. Various kinds of quicksands came under this head, which had to be passed through, whether vertically or horizontally. Suppose they were attempting to make an adit or a gallery, and came to a chasm filled up with quicksand, or the bed of a stream; the moment it was cut into the material would rush into the levels. Again, when descending from the surface they got into the quicksand and the sides would fall in, and the excavation fill up again—a phenomenon noticeable especially in lower red sandstones of the Permian system. The ground must be secured by tubbing in all these cases; and then the work to be done was simply to dig away the material thus brought down, for which purpose shovels of various kinds were used. The handles in the South of England were long, while in the North of England shorter ones were used (the lecturer exhibited specimens of both sorts); but all the English shovels were worked forward and away from the workman, while in almost all continental mines the shovel employed by the filler at the bottom of the shaft was underhanded, and used as a scraper as well as to lift the material. (A tool in use in Saxony was produced.) A great deal of this work required skilled labour, or experienced miners.

2. The second class was what was called fair, soft, or easy grounds—or, as the Germans called it "mild." Some of these were tough, as in clay, decomposed porphyry of different kinds, and in certain sorts of disintegrated granites, if there was not too much water in them. Others were more brittle, as chalk and rock-salt, and such as would stand by itself for a time. In grown, or "plum" granite, the walls might be safely left where the spaces opened out were not large—that was to say, 5 ft. high and 3 ft. broad, but if even so little as a foot larger either way it would not be safe to leave it. Chambers opened in material of this kind, when left too long, were liable to be attacked with oxidation, and the result would be that portions would split from the sides, fill up the levels, and gradually become very troublesome and injurious, materials of no value becoming mixed up with those which were. In this kind of ground it was usual to employ picks and shovels of various sorts before resorting to explosion by the means of powder.

3. Jolty or scaly ground, or, as the Germans had it, "Kurzklaftig." When rocks of this kind come into play, and in the greater part of the mineral veins, a portion of the ground at least was of this character, with such materials as many clay-slates and porphyries, the work might be done without powder.

4. In the harder rocks, blasting was an admirable aid to the miner, and these harder classes of rock—or what was termed "fest" in Germany, and shooting or blasting ground in England—constituted the largest proportion of the rocks in which mineral veins were worked. The processes of blasting used here were also used in working certain coal seams, on account of the superior cheapness with which operations might be carried on. (Examples of these rocks in the older clay-slates or "kilas" granite—grauwacke gneiss—and mica slate were exhibited.)

5. That class of rock which was of excessive hardness, and termed *tight* and close, as well as hard, comprising certain syenites, greenstones, quartz, with the metallic sulphides (which in some kinds of veins it was desirable to work), and gneiss. Norwegian and Swedish rocks were often of this exceedingly hard character, so that very frequently no tool would bore them, and then the old practice of fire-setting was used. In a few districts this practice was kept up on a large scale. When the rock was so very hard, it might go far to take away all chance of the work being a paying undertaking. In Cornwall there was a case where the cost for driving was 30s. per fathom. This was not an uncommon case, and mines might be cited where it cost 50s. to 80s. per fathom. Unless, then, in such cases, they met with a large proportion of ore, it was impossible to work with advantage, and the comparative cheapness of wood in Sweden was probably the cause why blasting had not superseded fire-setting there.

**LECTURE XVII.**—It would naturally suggest itself to those who attentively considered the subject of the last lecture, and the modes in which slow and laborious progress was made by the miners through hard rocks and difficult ground, to enquire whether it would not be possible to use some other power than that of human muscles for a work which, at first sight, seemed to be one of mere mechanical exertion. It was not surprising, therefore, that many years ago a machine should be invented for the purpose of cutting or hoisting the seam. The inventor was Mr. Peace, of Wigan, whose name was well known in the earlier history of mining enterprise in the North of England. The colliers called it "the iron man," and, worked by steam, it was applied simply for the purpose of undercutting the coal. Its great fault was that it was very complicated, and, after being tried for a length of time, was given up as impracticable. A considerable period elapsed before any further effort was made in this direction. Within the last half dozen years, however, many different schemes to effect the same object had been proposed, but, although some of them had advanced to a much greater state of completeness than others, they could not generally be recommended for application on a large scale. The question, however, at the present moment was rendered one of the gravest importance, partly by the high rate of wages and the difficulty of obtaining steady work from the colliers, that the masters had thought it duty incumbent upon them to make efforts to obtain an apparatus, worked by steam or water power or by compressed air, to accomplish the primary work of the colliers—viz., the under-cutting or kiving of the seam. Amongst these recent machines, two or three depended upon the application of an implement very much like the bolting-pick of the collier, but made of greater strength, connected with a small portable engine, which could be run on the usual tramways, and brought alongside the seam of the coal, and so to cut it away right along the whole length of the face. These had been placed underground, and undergone trials of varied intensity and duration; and, although it had been proved that they did a large quantity of work in a given time, as much, perhaps, as would take from 10 to 20 men to do by the ordinary means—so that where a machine of this kind could be conveniently brought into the workings and continuously employed without doing injury to the other works of the mine, and not requiring frequent repairs, a great gain would be achieved—practically, however, this was not done, the machines having all the general fault, in a greater or less degree, of being too complicated. The point aimed at by all was to do what was called "kiving," or to cut the coal horizontally along the bottom of the seam, and then manual labour had to be employed to make the vertical cut, or "shearing." Messrs. Jones and Levick, however, attempted to meet this objection by placing their picks upon a universal joint, so as to follow the inclination of the seam. Great difficulties, nevertheless, attended the employment of steam in the working of collieries, and if anything new were done in this direction it would be by compressed air, which would not overheat the atmosphere, and otherwise interfere with the comfort of the workmen. Some years ago a circular saw was proposed, on a theory which seemed feasible enough, but it did not succeed in practice. One system, highly spoken of, was that of actually cutting out the coal by strong curved chisels, or scoops, fixed to a strong iron bar, made to protrude from a rotary disc. This method had been introduced for a considerable time, and was worked by hydraulic pressure. It was not well, however, to go much into the subject just now, as we were in a transition state; and, in order to stimulate inventors to turn their attention to the matter, the coalminers of South Lancashire had proposed to give a handsome reward for the best coal-cutting machine, to be reported upon by a committee of practical judges. The result had been that several machines had been sent

in for trial, but the entries not being deemed sufficiently numerous, the time for entry had been extended to the end of the year. He presumed, however, that they would in a few weeks have a report, on competent authority, how far these attempts to compete with manual labour in this class of work had been successful. There was certainly every *prima facie* reason why such a machine should be successful. The mineral to be cut was of but moderate hardness, and it was almost crystalline in its structure, enabling it to be readily split off or broken off. These and other reasons induced him to believe that machinery would sooner or later be adopted to advantage. On the other hand, no doubt there were difficulties. It was objected that the use of the pick, working away on the rock or seam without human reason to guide it, would never answer—as supposing it came upon fragments of pyrite or other hard substances which would give out sparks, the pick would hack away at these, and might set fire to pent-up gases, and perhaps to the coal itself. It was this danger which led to the suggestion of scoops which would not produce sparks, but brought the coal down without percussive action. A greater difficulty arose from the chances of the roof breaking down, or the coal itself coming down upon the cutters, which might always be expected; but this was met by fastening the machine in such a way that its fixings should themselves act as props, and so protect the machine. The cases he had referred to were those in which it was sought to do by machines work ordinarily done without the help of gunpowder; but when it was proposed, instead of using blasting apparatus, to employ machines, and to cut out the rock bodily, they came to a problem of different character. In the work called "The Art of Mining," it was stated that the use of gunpowder was of comparatively recent date, notwithstanding that explosive was used for warlike purposes as long ago as the middle of the fifteenth century. It was proposed to be used in Germany by Martin Welgal, in 1613, but the idea met with little countenance. The practice was first adopted in England in 1670, at the Ecton Mines. The blasting, however, at that time was but a clumsy process, and it was used to blow in pieces masses of rock which had already been freed from their beds by other agencies. They must not be led astray by statements in books respecting the use of gunpowder in mines, as older references to "firing" belonged to the system of "fire-setting," which dated from a very early period, and was, no doubt, employed by the Romans. The introduction of gunpowder had been an immense boon to mining undertakings. It not only enabled the miners to work upon rocks of great hardness at an economical rate; but it had led to the enlargement of the excavations, such as the drifts and levels, and so placed the workmen in a better position as to ventilation, comfort, and health. Formerly the miners when cutting the rock were compelled by the narrowness of the levels and smallness of the working places to inhale the dust made by themselves in piercing the rock, and their lives were thus shortened in a frightful degree. The use of gunpowder had compelled the mines to be arranged with more regard to ventilation, and the bore-holes for the gunpowder being often kept filled with water the old injury to the breathing faculties was, for the most part, avoided. There were, of course, occasions and places where gunpowder could not or ought not to be used. Where, for instance, fire-damp was common, and it was necessary to use safety-lamps, the lighting of a fuse with an open match would be most dangerous. In many collieries a certain person was employed to fire the shots, whose duty it was to test the places beforehand, and see that no gases were present in quantities sufficient to take fire; but as they all knew, accidents did occur very often, and it was much to be desired that the practice should be greatly restricted, if not done away with altogether. Another case in which gunpowder should not be used was where the seam was much fractured, and fissured naturally, so that a shot would result in a large proportion of small coal as to make the working unremunerative. Again, in quarrying marble or other stones, where it was an object to obtain the rock in a large mass. Passing to the methods used for employing gunpowder, they were, he might say, to a great extent, the same in principle in all the mining-districts of the world. At first, in this country as elsewhere, boring the holes was a slow and imperfect work; but, nevertheless, it soon came to be observed that, by cutting away underneath, and then blowing the rock or seam down by gunpowder, one man could do as much as six with the hammer and gad alone. This, then, at starting rendered it possible for a mine to be taken up and worked to profit, which could not formerly have been done. The hole was bored, the powder then placed in it, either loose, or in a cartridge—the hole was then filled up or "tamped" to the surface, and a fuse having been arranged it was fired, and the result was that a portion of the rock was blown down. The hole was bored with what was called in different places a jumper, a drill, or an anger—a piece of iron with a steel ending, and then blowing the rock or seam down by gunpowder, one man could do as much as six with the hammer and gad alone. This, then, at starting rendered it possible for a mine to be taken up and worked to profit, which could not formerly have been done. The hole was bored, the powder then placed in it, either loose, or in a cartridge—the hole was then filled up or "tamped" to the surface, and a fuse having been arranged it was fired, and the result was that a portion of the rock was blown down. 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## Mining Correspondence.

## BRITISH MINES.

**ABRAHAM CONSOLS.**—J. Vivian, Jan. 2: The sumpmen are now engaged cutting ground for cistern plat and bearers, preparatory to fixing the lift below the 17 fm. level. The ground in the shaft is hard for sinking; down 15 ft. below the 17 fm. level. The tributaries have over 20c. worth of tinstuff for sale, from the 17 fm. level backs.

**BEDFORD UNITED.**—J. Phillips, Jan. 1: The stopes in the 115 and 103 fm. levels west are producing about the same quantity of ore as last reported. The north lode, in the 90 east, is 2½ feet wide, producing from 3 to 4 tons of ore per fathom. There has been no lode taken down in the 75 east. The stopes in this level are still producing 4 tons of ore per fathom. In the winze in the 62 east no lode has been taken down.

**BEDOL-AUR.**—S. and R. Harvey, Jan. 2: I have been obliged to suspend operations in the 100 yard level, in consequence of the water being too quick for the swallow. I tried for two or three days to get it out with the whim, and to clear the swallow, but it would not take the water; however, it looks now as if it will go away soon, as it has not risen more than 2 inches since last night. I hope we shall be able to resume operations shortly. Pending instructions from you, I have placed the men to make trials in two or three places in the 70 and 77 yard levels. We have four tribute pitches, now all yielding ore.

**BRYN GWIOW.**—S. Harper, Jan. 2: The lode in the 102, driving east of the engine-shaft, has improved since my last, having met with a deposit of soft ground in the bottom of the forebreast, from which we have taken some fine specimens of ore, the nature of which induces me to think we are on the eve of a good deposit of mineral; the upper part of the forebreast is also much more promising, and producing more lead. The lode in the 90, west of said shaft, is still gradually improving, and producing fine lumps of lead ore, intermixed with blonde, spar, &c. Having communicated the 85 from No. 1 to 3 winze, we have resumed the 85, west from the latter winze; the lode here at present is in a hard bar of ground, but must soon get into a more productive lode, which is known to be short distance in advance of the forebreast. A portion of the ground in back of the 85 is now let on tribute, where the lode will produce 2½ tons of ore per fathom; the bottom of the said level will yield about 2 tons per fathom. The lode in the 75, west of Bramwell's shaft, still looks very promising, producing 1½ ton per fathom, and letting out more water—a favourable indication. Bramwell's shaft being now completed, with skip-road and drawing-gear to the 75, the men are engaged in cutting tip-plat in the bottom of the level, &c., preparatory to sinking this shaft to the 55, which we anticipate will go through a fine bunch of ore. A tramroad will also now be laid in the 75 west, which will greatly facilitate the working of the old mine. There is no change in the 66 east since my last. The water has again decreased to about three strokes per minute for the engine, and the machinery is in good working order.

**CAPDE CORNWALL.**—R. Pryor, F. Hosking, Jan. 1: The lode in the 100, east of engine-shaft, still maintains its size, and we are daily expecting to meet with the shoot of tin driven through in the level above. The lode in the winze sinking below the 90, east of shaft, is worth 9t. per fathom. The lode in the 70, west of shaft, is full 3 ft. wide, composed of mundie, with stones of copper ore.

**CARADON CONSOLS.**—S. Bennetts, Dec. 31: There is but little change in the lode in the 68 west since last reported on; the granite around it, however, is somewhat easier, and containing more peach. In the shaft below this level during the past few days some very good black ore has been found, and the granite is still good.

**CHIVERTON.**—J. Juleff, W. Bennetts, Jan. 2: The men are now in course of sinking the engine-shaft below the 75 fm. level. The 75 cross-cut is driven south of the shaft 6½ fathoms. In the 65, west of engine-shaft, the lode is 3 ft. wide, worth 5 cwt. of silver-lead per fm. In the 65 east, the lode is 2 ft. wide, with stones of lead. In the 65, west of the flat-rod shaft, the lode is 2 ft. wide, composed of spar and mundie. In the 65, east of the cross-course, at the flat-rod shaft, the lode is 2 ft. wide, worth 3 cwt. of silver-lead per fm. The stopes continue to look well.

**CLARA UNITED.**—J. Davis, Dec. 31: There is no change in any of the bar gains, except in the 40 end east, where the lode is gradually improving. The frost has stopped our surface operations and the bottom level. The bottom men are for the present driving the 40 end east.

**CRELAKE.**—W. Skewis, W. Hooper, Jan. 2: In the 86 west the lode is 2½ feet wide, composed of mundie, capel, with occasional good stones of copper ore, worth 3t. per fm. The lode in the 74 west is 2 feet wide, yielding saving work. The lode in the 70 fm. level is 2 feet wide, worth 6t. per fm. In the 62 west the lode is split into two parts, each about 6 inches wide. The horse of killas between them is about 2½ feet wide. We think this is occasioned by the end being near a slide, and, therefore, we may hope for an early change. The lode in No. 1 stope, in back of this level, is 3½ feet wide, worth 6t. per fm., and in No. 2 stope the lode is 4½ feet wide, worth 12t. per fm. In the 50 west, we have again intersected the lode to the west of the slide, but cannot see enough of it to state its size or value. The lode in No. 1 stope, in back of this level, is worth 7t. per fm., and in No. 2 stope it is worth 8t. per fm. In the 40 west the lode is 2 feet wide, composed of mundie, capel, and copper ore, yielding saving work, and looking very promising. The lode in No. 1 stope, in back of this level, is worth 8t. per fm., and in No. 2 stope it is 4½ feet wide, worth 24t. per fm. The lode in the 28 west is 3 feet wide, worth 14t. per fm., and in the stope in back of this level the lode is 2 feet wide, worth 7t. per fm. The lode in the rise in back of this level is 2 feet wide, yielding saving work. We sampled on the 30th December (computed) 243 tons of copper ore.

**DEVON AND CORNWALL UNITED.**—Thos. Neill, Dec. 31: William and Mary: The lode in the 22 west is 6 ft. wide, and very promising; at present it is worth 2 tons of ore per fm. The lode in the 34 east is worth 1 ton of ore per fm. The ends are all looking very promising. The pitches are much the same as for some time past.—George and Charlotte: In the cross-cut north, at the Midway level we have met with a small branch producing stones of ore. We have this day sampled 140 tons of ore.

**EAST GUNNISLAKE AND SOUTH BEDFORD.**—J. Bray, Jan. 2: We have pricked the wall of the lode at the 54, but have not yet been able to ascertain its size and character, nor shall I be in a position to advise you thereon till the lode is cut through. The end is at present letting out a large stream of water, which is draining the sinks in bottom of the 36; very fast, the water having gone down in the same 11 feet since this has been met with. During the past week we have been rising in the back of the shallow aditend. We find the lode, so far as seen, is a few feet wide, composed of gossan, spar, prian, mundie, and ore, and producing of the latter good saving work. A more promising-looking lode than this for the production of large quantities of ore can not be seen.

**EAST LAXEY.**—W. H. Rowe, Dec. 24: The 20 fm. level is now driven 36 fms. north of engine-shaft. The continued and uninterrupted hard ground has made this driving very tedious and expensive, and for which we should have satisfactorily proved the ground at the present depth several months ago. Although strong and regular, the lode in the last 4 fms. has been withered copper, but just now an improvement has taken place. In the forehead it is 2 feet wide, composed mainly of quartz, copper, and a little gossan. There is a strong feeder of water. It is altogether forming a better looking lode than I have seen here for some time. After carefully dialling the ground, I think this level should be driven about 10 fms. further, in order to prove thoroughly the copper ground at this depth. I would then recommend a sump to be sunk, as proposed in a former report, which I think the mine most certainly deserves.

**EAST ROSEWARNE.**—C. Giasson, Jan. 2: In King's shaft, sinking below the 105, the lode is 18 in. wide, worth 10t. per fathom. There is no change to notice in the 105, west of shaft, since my last report. In the 105 east, the lode is 20 in. wide, worth 6t. per fathom. In the 95, west of shaft, the lode is 10 in. wide, worth 5t. per fathom. In the 85 fm. level, west of shaft, the lode is 12 in. wide, worth 6t. per fathom.

**EAST WHEAL GRENVILLE.**—G. R. Odgers, W. Bennetts, Dec. 28: Setting Report: The engine-shaft, to sink below the 110, by nine men, at 400s. per fm., the lode is 2 ft. wide, composed of quartz, &c., in which we find stones of black ore and tin, embedded in a very congenial granite; hence we think the sinking of this shaft will lead to a productive lode. The 110 west by four men, at 84s. per fathom; the lode is 2½ ft. wide, and in the back of the level there is a good branch of ore, but letting out a great deal of water; this end, if we could save all the ore, is worth fully 1½ ton of ore to the fathom, and has a most promising appearance. We believe, from the features the lode at this level is showing, that we shall shortly have the pleasure to announce a discovery. The 95 by four men, at 100s. per fathom; the lode is split into branches. The stope above this level by four men, at 30s. per fathom; the south part is worth 1 to 1½ ton of copper ore to the fathom, and the north part is producing good thin wavy rock, together worth 8t. to 9t. per fathom. The stope below this level, west from the shaft, by eight men, at 40s. per fathom; lode worth 1½ to 2 tons of copper ore to the fathom.

**EAST WHEAL RUSSELL.**—William Richards, Jan. 1: The lode in the 88 west is about 2 ft. wide, and contains some ore, but not enough to value. The ground is stiff and slow for progress at the present time. The ground in the cross-cut north, in the 66, is favourable for progress, and there are some kindly branches crossing the end, containing mundie and yellow copper ore. The lode in the winze in the 66 is 4 ft. wide, and produces 3½ tons of yellow copper ore per fathom. There is no change to report of the other points.

**EBURY.**—F. Evans, Jan. 2: No change can be noticed much in the shaft sinking below the 40; appearances are, however, exceedingly encouraging, and I have no doubt we shall be long drive out the 50 into productive ore ground. In cutting down the shaft above the 40 we have excellent stones of lead, showing the lode to be highly productive for lead, and it is only a question of waiting a short time to produce good results.

**FRANK MILL'S.**—J. P. Nicholls, J. Cornish, F. Cornish, Jan. 1: The west lode, in the 145 north, is still unproductive of lead ore to value; it consists, however, of white iron and quartz, and spotted throughout with lead ore, with very favourable ground. The stope in the back of this level, on the east lode, is producing 12 cwt. of lead ore per fathom. The west lode, in the 130 north, is producing occasional stones of lead ore, with an improving appearance, and the ground also favourable. We have not yet intersected any lode in the cross-cut east from the 115 fm. level north end. The two stope in the back of the 100 fm. level north are each yielding ½ ton of lead ore per fathom. The high stope, in the back of the 84, has now got up above the 72, where it has become less productive for the present. The lode in the winze sinking in the bottom of the 45, north from engine-shaft, is looking very promising, and producing from 5 cwt. to 6 cwt. of lead ore per fathom. There is no other change in the tutwork operations. The tribute department, on the whole, is not producing quite so much ore as when last reported on.

**GAWTON COPPER.**—G. Rowe, G. Rowe, Jun., Dec. 28: Judging from the appearance of the ground in the 70 fm. level cross-cut, we are inclined to think it is getting near the main part of the lode, where we anticipate great improvement. The lode in the 60 east is improving both in character and value, and is worth 3 tons of good quality ore per fathom. The lode in the winze sinking below the 60 is without change in character. The lode in Nos. 1 and 2 stope, in the back of this level, both east and west of winze, is worth 3 tons of ore per fathom. The lode in the bottom of the 50, west from Moor's, is worth 4 tons of ore per fathom. The lode in the 40 west is not quite so good as last reported. The lode in the rise and stope in the back of this level is worth 4 tons of ore per fathom. The lode in the stope in the back of the 36 is worth 4 tons of ore per fathom.

**GOTHIC.**—J. Lester, Jan. 1: I am glad to inform you that the repairs of the least, occasioned by the falling of about 400 tons of earth, are completed, and the water is out of the mine, all but about 6 feet in the 40 fm. level. The men have

been stopping in the 30 fm. level east, and are raising from 10 to 12 cwt. of ore per fathom. We intend completing the communication of the winze with the 40 fm. level, which, when last worked, before the water got into the mine, was not yielding so well as I had expected. We intend sampling every other month, and I am preparing all the stuff on surface, but I fear the frost will now prevent our surface operations, if it continues.

**GREAT LAXEY.**—J. Barkell, Dec. 31: The cutting of ground for penthouse, and the preparatory work for sinking the engine-shaft below the 220, is nearly completed, which when done the sinking will be resumed and continued with as little delay as possible. The 220 end, driving north, is without change (worth 50s. per fathom), the men having been prevented from working a good part of the month through the water being in. The lode in the 210, driving north, is reduced in size and value since last report, now worth 10t. per fathom. The 200 end is looking better, the lode being wider, and producing stones of lead and blonde. We expect an early improvement in this end. The 190 has improved in lead within the past fortnight, and is now worth for lead and blonde 90t. per fathom. We have been cutting into the lode in the 180 north during the past month, but, so far as seen, it is not rich, being composed chiefly of hard quartz; still it is producing good lumps of lead and stones of blonde, and we believe that the best part of it is still standing to the east side of the level. We have not been driving the 180 north for the past month, therefore the value of the end is as last reported—40t. per fathom. The men have been put back about 6 fms., to shoot off and bring on the remaining part of the lode, which part has, so far, turned out to be the most productive, as we anticipated it would in our former reports, and is now worth 70t. per fathom. The average value of the stopes in the sole and in the roof of this level is about 90t. per fathom. We have commenced to rise above the level, to communicate it with the 155, 20 fm. further north than the last communication, which 20 fm. have been driven through (in the 155) a lode varying in value from 50t. to 150t. per fathom. The 155 end, driving north, has reached the slide that we have been expecting; therefore, the lode in the end is not looking so well, but, in the level below, it is far more productive than the north side of the side than the south, and we expect the same result in this level.—Dumbell's: We are progressing but slowly in sinking the engine-shaft below the 125, having had to cut ledge and make sundry alterations and additions to the pitwork, but I hope we shall be able to make better progress in future; the lode in the shaft is worth 50t. per fathom. The 125 end, driving north, is worth 90t. per fathom. The 125 south is worth 40t. per fathom. The 155 end, driving north, has reached the slide that we have been expecting; therefore, the lode in the end is not looking so well, but, in the level below, it is far more productive than the north side of the side than the south, and we expect the same result in this level.—Dumbell's: We are progressing but slowly in sinking the engine-shaft below the 125, having had to cut ledge and make sundry alterations and additions to the pitwork, but I hope we shall be able to make better progress in future; the lode in the shaft is worth 50t. per fathom. The 125 end, driving north, is worth 90t. per fathom. The 125 south is worth 40t. per fathom. 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hope to make up for lost time. The rock continues to be of the most favourable character, and the deeper we get it appears more mineralised, and I think, ere long, we shall have something good. The water is also increasing, which may be looked on as a favourable symptom of nearing the lode.

**ROSECLIFF AND TOLCARNE.**—T. Gundry, B. Pryor, Jan. 1: In the 50 fm. level cross-cut driving north of Lindo's engine-shaft, we have cut another branch, which is 1 ft. wide, containing blonde, mundic, spar, and flookan, with spots of lead. No. 3 lode, east of the 50 fm. level cross-cut, is improved, and is now producing good stones of lead, with every appearance of a further improvement. In this level, driving west of cross-cut, the lode is 2½ ft. wide, with a better appearance, and the ground more favourable for driving.

**ROSEWARNE CONSOLS.**—J. Nancarrow, R. Knuckey, Dec. 31: In the rise above the 80 west the lode has hitherto been worth about \$1 per fathom, but the ground is spare for rising, so that we cannot make the progress we would wish. There is nothing new to report in the 70 fathom level. The ground in Sarah's shaft has improved; the lode is 1½ ft. wide, with mundic and good stones of ore; this is likely soon to get down into the run of ore ground. The pitches on the counter are looking pretty well.

**ROSEWARNE UNITED.**—Thos. Richards and Son, E. Cartwheel, Jan. 2: In the 70 fm. level cross-cut, driving north from boundary shaft, the ground is a little harder. In the 30, driving south from Giesler's engine-shaft, there is no thing to value. The lode cut in the before-mentioned cross-cut does not improve in size or value, having extended west on it about 5 fathoms. The 30 east, driving east on the lode, is 3 ft. wide, yielding good saving work, and looking very promising for further improvement.

**SOUTH CONDURROW.**—J. Vivian and Son, Wm. Williams, Dec. 28: At King's shaft we are still cutting plait. At the 71, east and west of King's shaft, there is nothing to note since last report. In the 61, west of King's shaft, we are rising in the flookan part of the lode, in order to make more rapid progress, and are leaving the most valuable part of the tin lode unbroken on each side. In the 51, west of King's shaft, the lode is 2 feet wide—a very promising lode, containing rich lumps of grey and yellow copper ore. In sinking below the 51 west, to communicate with the rise from the 61, the lode is increasing in size, and becoming richer in the being now 2½ ft. wide, and worth about 51 per fathom. There is nothing further to remark on.

**SOUTH DAREEN.**—J. Boundy, Dec. 28: Setting Report: The lode in the 70 west is 1 foot wide, presenting a good appearance, but not yielding as yet sufficient ore to value; set to four men, at \$1 per fathom. The lode in the 60 west is 3 ft. wide, and worth for lead and copper 26¢ per fathom; our prospects in this level (the 60 west) at present are very good indeed—set to six men, at 10¢ per fathom. In the 60 west we have just intersected a cross-course, consequently the lode for the moment seems rather disordered by its influence; present value 12¢ per fathom for lead and copper—set to six men, at 7¢ per fathom. To stop the back over the 60 fathom level west, by eight men, at 80¢ per fathom; the lode is 3 feet wide, and worth for lead and copper 16¢ per fathom. To stop the back over the 50 west, by six men, at 80¢ per fathom; the lode is 2 feet wide, and worth for lead and copper 14¢ per fathom. To stop the back over this level, east from ditto, by four men, at 80¢ per fathom; the lode is 2½ feet wide, and worth for lead and copper 10¢ per fathom. To stop the back over this level (the 40 west), by six men, at 80¢ per fathom; the lode is 2 feet wide, and worth for lead and copper 17¢ per fathom. The 30 west to drive south, by four men, at 61½ per fathom; during the past month we have met with several branches containing spots of copper, but not sufficient to value. The shallow level to drive east, by two men, at 61½ per fathom; the lode is 8 in. wide, containing mundic, spar, copper, &c., but not to value. We are getting on very well with the dressing, and shall sample next week the usual quantity of lead, if the weather will allow us. The machinery is in good working order.

**SOUTH HERDFOOT.**—W. Goldsworthy, Jan. 2: During the past week we have fixed standing-lift, put in main-rods and footings, all complete to the 86 fm. level. We shall now commence sinking the shaft with all speed. I am glad to say that the engine and all the pitwork are in trim, and working beautifully.

**SOUTH WHEAL GREENVILLE.**—G. R. Odgers, W. Bennetts, Dec. 28: Setting Report: The engine-shaft to sink below the 30 fm. level by nine men, at 25¢ per fathom, the month extent, the lode in which is split into branches. The 30 fm. level east by four men, at 80¢ per fathom; the lode is 18 in. wide, composed of quartz and gossan—a kindly lode, and as we advance under the most promising lodes gone below the 20, we may expect a decided improvement. The 20 east by four men, at 60¢ per fathom; the lode is from 2 to 3 ft. wide, composed of quartz, prian, and gossan, with a little ore—a more promising lode than there is in this end we have not seen in any mine in this district, and hence we believe, as the 30 is brought under a promising lode will be met with.

**STEEPLE ASTON IRON.**—J. Argall, Jan. 2: We have continued our operations, and have made a good road in and out of the workings, preparatory to the contract being entered into. Everything is looking well, and we have a good pile of ore on the bank for sale.

**ST. JUST AMALGAMATED.**—R. Pryor, W. White, R. Wearne, Jan. 1: There is no change to notice in the Eastern mine since our last.—Western Mine: The lode in Savelle's engine-shaft, sinking below the 90 fm. level, is still improving, and now worth 14¢ per fm., with a good appearance. The lode in the 90 end, east of shaft, is worth 6¢ per fm., and in this level, west of shaft, the lode is worth 6¢ per fm., with every indication of a further improvement. The lode in the 76 fm. level west is improved, and now worth 7¢ per fm.—Owl Lode: The lode in the end, north of Reddipper shaft, is worth 4¢ per fm., and in the 20 end north the lode is worth 5¢ per fm. The lode in the 20 fm. level, south of Savelle's lode, is worth 6¢ per fm. The lode in the 10 fm. level north is worth 7¢ per fm. All other places where change to notice since our last report.

**TIN HILL.**—W. H. Whitecock, Jan. 2: The price quoted for hauling and landing tinstuff at this mine in last week's Journal should be 5d. instead of 5s. The lode is of the same character, and if the frost continues, our dressing operations will be retarded.

**TREVENEN AND TREMENHERE.**—J. Medlyn, C. George, Dec. 31: The lode in the 97 fm. level end yields a little tin, but not to value. The stope in this back is worth 10¢ per fathom. The winze sinking below this level, 9 fms. behind the end, but not to value. The winze sinking below this level, 9 fms. behind the end, is worth 10¢ per fathom. The 172 fm. level end is worth 20¢ per fathom. No. 1 stope, in this back, is worth 25¢ per fathom; No. 2, 30¢; and No. 3, 35¢, per fathom. The stope in the 162 is worth 30¢ per fathom. The stope in the 150, new sump, is worth 6¢ per fathom. The ground in the two deepest levels is still fair and congenial for producing tin, and a great improvement is to expect to place here shortly.

**VIGRA AND CLOGAU.**—W. J. Holman, Jan. 2: In the past month the No. 4 shaft has been deepened 3 fathoms, which is very good progress; the lode is rather flatter in the bottom than above, but with a change in the dip, which will probably occur in the next month; we may expect an enlargement, and I hope an enrichment also. The deepening of No. 5 sink has not been continued during the last fortnight, as the men are cross-cutting to ascertain the position of the north branch and the width of the stony part of the lode, which appears to be wider than was anticipated. At No. 1 east driving the lode in back of the level is somewhat smaller, otherwise there is no change. The gold in the arch of ground at surface stope, west of No. 1 shaft, did not hold; the gold in this part of the lode has always formed in some bunches in the mass of quartz. We commence the drivage of the old Clogau Copper Mine forthwith, all the apparatus being in working order. The frost interferes with the reduction works.

**WESTMINSTER.**—F. Evans, Jan. 2: No. 1 stope, west of Thompson's, looks remarkably well, and will open a splendid run of ore ground, in places worth 3 tons to the fathom. No. 1 stope, east of said shaft, will also be carried out, and will produce 1½ ton of lead ore per fathom. The ore ground in the roof of the 70, east of Thompson's, is equal to last report, and will produce large quantities of lead. At present I see nothing that is likely to interfere in the regular working of the mine, or to prevent our raising the usual samplings, and increased quantities. The prospects for the future are remarkably good.

**WEST GREAT WORK.**—S. J. Reed, Jan. 1: The great north lode in the 50, driving east and west of flat-rod shaft, continues to produce tinstuff for the stamps. The 40 west is worth 4¢ per fathom. In this level, driving east, the lode is 2 feet wide, and worth 18¢ per fathom. The stope in back of this level has improved for copper ore, and still yields good tinstuff, worth together 10¢ per fathom. A stope in back of this level is worth 12¢ per fathom. The lode in the 20 east is improving in size and quality, worth 6¢ per fathom; driving at 40¢ per fathom. The rise in back of this level is worth 16¢ per fathom. We have an improvement in Barnshaft; the lode is now 3 ft. wide, worth 10¢ per fm. WEST MARIA AND FORTESCUE CONSOLS.—Wm. Skewis, James Donnal, Jan. 2: Capel Tor Lode: The lode in the 60 east is 4 ft. wide, yielding 3 tons of ore per fathom. The lode in the 50 east is not all taken down; so far as seen it is improved, worth full 1 ton of ore per fathom, and is promising for further improvement. The lode in the stope in back of this level is yielding 3 tons of ore per fathom. The lode in the 20, east of new shaft, is 4 ft. wide, improved, worth for copper and mundic 5¢ per fm., a very promising lode.—West Maria Lode: There are about 3 ft. of the north part of this lode taken down in the 60 east, which is yielding 1½ ton of ore per fathom, and looking well for an improvement. The lode in the 50 east is 4 ft. wide, producing 2 tons of ore per fm. The stope in the back is yielding 3 tons, and that in the bottom of this level 4 tons of ore per fathom. The lode in the 40 east has not been taken down since last report. The lode in the stope in the bottom will yield 3 tons of ore per fm. No change of importance in any other point of operation.

**WEST PRINCE OF WALES.**—J. Gifford, Dec. 31: On Saturday last the following bargains were set:—The deep adit, on the south lode, to drive by six men, stent the month, at 32s. 6d. per fathom; lode 2½ feet wide, composed of flookan, with stones of gossan intermixed. The engine-shaft, on the north lode, is down 7½ fms. below the adit level; lode 3½ feet wide, composed of flookan, quartz, and capel, and the ground favourable for sinking.

**WEST ST. IVES.**—J. Evans, T. Uren, Jan. 1: The lode in the end driving west is 2½ feet wide, yielding good work for tin; and the stope in the back of this lode is opening very satisfactorily.

**WEST WHEAL TOLGUS.**—Jan. 1: The ground in Taylor's engine-shaft is somewhat stiffer than when last reported. The lode in the 85 fm. level west, is 2 feet wide, unproductive. In the 85 fm. level east the lode is 7 feet wide, producing 6 tons of ore per fm. worth 20¢ per fm. In the 75 fm. level west the lode is 3½ feet wide, producing good stones of ore, a kindly lode. The lode in the 65 fm. level west is 3 feet wide, producing 1½ ton of ore per fm. In the 50 fm. level west, is 3 feet wide, producing 2 tons of ore per fm. As we expect a fall in the prices of straw and maise, we may next year be able to increase our extraction from the lower points of the mine. Work on the reserves has been continued as usual, and our buscone sales keep up to about the same figure with fluctuations. The buscone sales for the four weeks ending Nov. 14 amounted to \$7805. The accounts for the month show less favourable results—a loss of \$4232; but it must be remembered that we have received no gold from the haciendas, and that as the month includes the outlay of five weeks, with silver from ore ground in barely four (our tortas having been kept back by the cold weather), there is nothing to cause a fair decline in the produce.—on the contrary, it will be observed that in the five weeks we have remitted much above the average amount of ore to the haciendas—4697 cargas, the gold, of which alone is worth from \$2500 to \$3000.—Mines of the Guadalupe de la Oscura District: In El Carmen the good ore, through very narrow, continues. In the

tin 20¢ per fathom. The No. 2 stope is worth 25¢ per fathom. The 70 east is worth 12¢ per fathom. The 60 west, on the north branch, will produce 2 tons of good ore per fathom, worth (say) 15¢ per fathom.—Hocking's Shaft: In the 80 east the lode is large, producing tin, but not to value. The 70 west is worth 10¢ per fathom. The winze sinking under this level is worth 10¢ per fathom. The stope under the 60, west of Knuckey's winze, is worth 25¢ per fathom. The stope, east of this winze, is worth 20¢ per fathom. The stope in the back is worth 10¢ per fathom.

**WEST WHEAL TREMAYNE.**—S. Roberts, Dec. 31: The lode has improved both in size and quality in the 20 fm. level end during the past week. This end was set on Saturday last to four men, the month, 42s. 6d. per fathom. The cross-cut south to four men, at 35s. per fathom. The cross-cut north by four men, at 45s. per fathom. We also set three pitches—two in the back of the 20, and one in the back of the 10 fm. level.

**WHEAL CREBRO.**—Jan. 2: In the 120 west we have cut into the south part of the lode 2 ft., and so far as seen, it is hard and poor.—North Lode: In the 108 east we are driving by the side of the lode. In the 90 cross-cut west the south branch met with (which we have been driving west on), is underlying south 2½ ft. per fm., and is small and poor. Seeing that the Buxtor lode underlies north in the tunnel, I cannot think the branch to be this lode. I have, therefore, suspended the driving on it, and resumed the cross-cut. There is no chance to notice in the rise in the 96 east. The lode in Davis's pitch, in bottom of the 96 east, is still looking well. There is no change in the other pitches to notice. If the weather is favourable for dressing I hope to sample between 70 and 80 tons at the end of January.

**WHEAL EMILY SILVER MINE.**—J. Rabey, Jan. 1: The holidays being over, the work in the adit level is resumed—taking down the lode, and driving to cut the junction referred to last week. We hope to have a parcel of silver ore ready for sampling in the early part of February.

**WHEAL GRENVILLE.**—G. R. Odgers, W. Bennett, Dec. 28: Setting Report:

A bargin for nine men to make the shaft complete to the 130 by the skip-road, £60., at per job 20¢.; this we calculate to do in a fortnight, when we intend to resume the sinking, and driving of the 130 east and west; in the former end the lode is 20 in. wide (counter), composed of quartz, with a little ore, and the ground also looks favourable for copper. Here we have been expecting a more productive lode ere this. In the latter end the lode is 2 feet wide, composed of quartz, and gossan, and yielding ore and tin; of the latter it is worth 7¢ per fathom; we certainly think the prospects of this level look cheering. At the 120 west, in a pitch, we have discovered a good branch of tin; the lode altogether is 3 feet wide, and worth 15¢ per fathom. Next month we shall, all being well, resume this end, and, seeing the very promising lode at the 110, with the bunch of tin at the 100, we have great expectations of this level in going west opening out a productive piece of ground. The 110 west by four men, at 170s. per fathom; the lode in this end is 5 ft. wide, composed of quartz, &c., with mundic, black ore, and tin, worth 7¢ per fathom. We have no hesitation in stating that in our opinion this is indeed a most promising lode, and indicative of either a bunch of tin or copper. The winze below the 100 west by six men, at 15¢. per fathom; the lode is worth 25¢ per fathom. The dip of this tin is westerly, hence we are pleased to find the tin holding down in this winze so well. The 90 west by four men, at 200s. per fathom; the lode is at least 4 ft. wide, composed of quartz and mundic, with black and grey ore; at present it is worth fully 2½ tons of copper ore to the lode; it is, indeed, the most promising for a bunch of ore that we have ever before seen on this lode, and which we believe in going west will be productive of that metal; we have a high opinion of our western ground. The winze to sink below this level by four men, at 130s. per fathom; the lode is 5 ft. wide, and worth from 18¢ to 20¢ per fathom. From the appearance of this lode in the 100, and the improved lode in this winze, we think we are justified in expecting that we shall open out a good piece of tin ground. The 90 fm. level cross-cut to drive north by four men, at 180s. per fathom; the ground is looking as if we were approaching a lode.

**WHEAL KITTY (St. Agnes).**—S. Davey, W. Polkinghorne, Dec. 28: Nothing new has taken place throughout the mine during the week.

**WHEAL KITTY (Uny Leant).**—William Rosewarne, Jan. 2: South Russo Lode: The lode in the boundary shaft, sinking below the 30, is worth for the length of the shaft (9 feet) 6¢ per fm. The lode in the 30, east of the shaft, is worth 2¢ per fathom. The lode in the 30 west, east of the shaft, is worth 7¢ per fathom. The stop in the 30 west is worth 4¢ per fathom. The lode in the 20 end east is worth 3¢ per fathom.—New Lode: The lode in the 140, east of the cross-cut, is producing saving work.—North Russo Lode: The lode in No. 3 winze, sinking below the 150, is worth for the length of the winze (9 feet) 5¢ per fathom. The lode in the 150, east of No. 3 winze, is worth 3¢ per fathom. The lode in the 150, west of No. 1 winze, is worth 4¢ per fathom. The lode in the 110, east of the cross-cut, is worth 3¢ per fathom.—North Russo Lode: The lode in No. 3 winze, sinking below the 150, is worth for the length of the winze (9 feet) 5¢ per fathom. The lode in the 150, east of No. 3 winze, is worth 3¢ per fathom. The lode in the 150, west of No. 1 winze, is worth 4¢ per fathom. The lode in the 110, east of the cross-cut, is worth 3¢ per fathom.—North Russo Lode: The lode in the 110, east of the cross-cut, is worth 3¢ per fathom.—North Lode: The lode in the 90, east of Taylor's shaft, is, indeed, the most promising for a bunch of ore that we have ever before seen on this lode, and which we believe in going west will be productive of that metal; we have a high opinion of our western ground. The assay of the Lamas is not yet made. The administrador of La Purissima hacienda, Pachucha, has offered to benefit a torta or two of Capula ones; I will send 100 cargas for a trial in the patio. I would much rather they had barrels, for there is not a doubt but that is the best process for Capula ores. The net proceeds of the silver from the lead, 125 mrs 6 ozs., amounted to \$1054.22. The Mine: The lode in the San Cayetano end is very wide, and composed of quartz, with spots of ore, as we get more under the old workings east of San Luis. Two montons of the ore are calcined for smelting, which we intend to smelt with some richer ore that we shall send in as soon as we resume the works. The metal is all ground for the torta, and I expect it will be incorporated in a day or two. The assay of the Lamas is not yet made. The administrador of La Purissima hacienda, Pachucha, has offered to benefit a torta or two of Capula ones; I will send 100 cargas for a trial in the patio. I would much rather they had barrels, for there is not a doubt but that is the best process for Capula ores. The net proceeds of the silver from the lead, 125 mrs 6 ozs., amounted to \$1054.22. The Mine: The lode in the San Cayetano end is very wide, and composed of quartz, with spots of ore, as we get more under the old workings east of San Luis. 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## Projected New Companies.

Company.	Capital.	Shares.	Each.
Budleigh Salterton Hotel Company	£ 10,000	2,000	£ 5
Preston Co-operative Provision	1,000	4,000	14
Hurloa Mineral	3,000	300	10
Barton-street Co-operative	500	50	10
Eastern Credit	5,000	5,000	1
Sassari Waterworks	80,000	8,000	10
Holly Park Mill	6,500	130	50
Javali	100,000	50,000	2

**JAVALI COMPANY**, 100,000*l.*, in 50,000 shares of 2*l.* each, with power to increase.—The objects for which this company is established are the carrying out an agreement made Dec. 24, 1867, between the Central American Association and BERTHOLD SEEMANN, of the other part, and the adoption of such agreement, or any modification thereof, which may be assented to by the company, and the said association before Jan. 15, 1868. The acquisition from the Central American Association of the Javali Mine, with its appurtenances, and of all lands, plant, rights, stores, and other property of the said Central American Association, whether real or personal, in Nicaragua. The working and developing of the Javali Mine, and of any land, or mineral property, rights, concessions, or privileges in Central America, which at a general meeting the company shall by a special resolution, determine to purchase or acquire, and the doing of all such things, &c. The Memorandum is signed by—ALFRED ATKINSON POLLACK, Windmill Hill, Hampstead, Middlesex, solicitor, 2500; BEDFORD CLAPPERTON TREVELYN PIM, 1, Belgrave-square, Middlesex, commander R.N., 1500; BERTHOLD SEEMANN, 4, Westminster Chambers, Victoria-street, Westminster, Ph.D., 500; GEO. JEREMIAH MAYHEW, 30, Great George-street, Westminster, solicitor, 375; HENRY PHILLIP PETERS, 4, Harley-street, Bow, Middlesex, merchant's clerk, 15; HENRY SEWELL, 14 and 15, Coothall-court, London, E.C., stock broker, 450; GEORGE COX BOMFAS, 19, Coleman-street, London, E.C., solicitor, 150. Present number of directors five. Qualification, 250 shares. First directors—JULIUS ALEXANDER, ALFRED ATKINSON POLLACK, BEDFORD C. T. PIM, BERTHOLD SEEMANN, and GEORGE MOUNTAIN BOWEN. The directors, exclusive of the managing director, shall be entitled to receive for their remuneration in every year in which a dividend of not less than 5 per cent. shall be declared the sum of 100*l.*, and they shall receive double that amount in any year in which a dividend of not less than 20 per cent. shall be declared. The consideration for the transfer of the said property is the payment to the Central American Association (Limited) by the company of 65,000*l.* sterling, by five instalments of three of 15,000*l.* in one, five, and nine months after the incorporation of the company, and two of 10,000*l.* in 13 and 17 months after. In case of delay in the payment of any instalment of the above sum, the amount of such instalment shall thenceforth carry interest at the rate of 5*l.* per cent. per annum, payable on demand. The directors have power to borrow on behalf of the company any sum not exceeding 10,000*l.*

**SASSARI WATERWORKS COMPANY**, 80,000*l.*, in 8000 shares, of 10*l.* each.—The objects for which this company is established are the purchasing and taking over the rights of a concession for the construction of an aqueduct and other works for supplying water to the town of Sassari, in Sardinia, granted by the municipality of Sassari to Messrs. ROUX and BALLEYDIER, or other persons or persons entitled thereto, the works already executed in pursuance of the powers and privileges contained in, or otherwise, in furtherance of the objects of the said concession; for completing the said works according to the Articles of Agreement of, and the plans and specifications annexed to, the said concession, as the same now exist, or may hereafter be altered or modified by agreement of the parties interested in the same; for the purchasing, leasing, or otherwise acquiring all such lands, premises, and effects, entering into all such agreements, levying such tolls, rates, and charges for the use of the water as are authorised by the said concession or otherwise; and the doing, &c. The Memorandum is signed by—EDWARD VANSITTART NEALE, West Wickham, Kent, gentleman, 1; EDWARD MYER, 447, Strand, Middlesex, engineer, 10; THOMAS MYER, 40, Gloucester-street, Pimlico, civil engineer, 1; GUSTAVE ADOLPH CUNNIN, 10, Panton-square, Middlesex, merchant, 1; JOHN ROSEBY, Averham House, Brigg, Lincoln, mining engineer, 1; WILLIAM HENRY WALKER, 245, Pentonville-road, Middlesex, merchant, 1; OTTO GILES ABBOTT, Lindywell Park, Lewisham, Kent, S.E., gentleman, 1. Number of directors not less than four nor more than six. Qualification, 50 shares. First directors, EDWARD VANSITTART NEALE, THOS. MYER, JOHN ROSEBY, SIGNOR PASQUALE UMANA, and DON SIMONE MANCA (Cavaliero), Sassari.

**IRON BRIDGE ASSOCIATION**, 20,000*l.*, in 20,000 shares of 1*l.* each, with power to increase.—The objects for which this company is established are the carrying on the business of the manufacture, supply, and erection of bridges in iron, wood, and other material, and the preparation of designs and drawings for the same; the manufacture, supply, and erection of ironwork in connection with piers, wharfs, jetties, girders for houses and fire-proof buildings, light-houses, beacons, lightships, buoys, landing stages, floating-docks, caissons, coffee-dams, dock gates, graving docks, repairing slips, gas-works, water-works, sewage-works, railways, &c. The Memorandum is signed by—WM. H. LE FEVRE, 68, Bedford-gardens, Kensington, C.E., 50*b.*; A. E. STEPHENSON, the Lindens, Nightingale-lane, Clapham-common, gentleman, 50*a.*; H. PALFRAY STEPHENSON, 15, Abingdon-street, Westminster, C.E., 50*b.*; ROBT. KING, Eltham, Kent, C.E., 50*b.*; D. W. OGG, 3, Jeffery-square, St. Mary Axe, gentleman, 10*b.*; ROBT. STANNARD FORDHAM, Woodstock, Elmstead, Chislehurst, Kent, gentleman, 50*a.*; WM. THOS. MORRISON, 44, Lime-street, E.C., wholesale merchant, 50*a.* Number of directors not less than four, nor more than ten. First directors—HY. P. STEPHENSON, ROBT. S. FORDHAM, WM. THOS. MORRISON. Qualification, 50 shares of class A or B. The remuneration of the directors, exclusive of the remuneration of the consulting engineer, engineer, manager, and secretary, to be computed from the day of registration of their Articles of Association, shall be the sum of 10*l.* per cent. upon the balance of profits, after payment of 5 per cent. per annum dividend to the shareholders holding A shares upon the amount paid up thereon. The chairman to receive double the remuneration of an ordinary director. The vendors to receive for their business, &c., 500*l.*, in 5000 fully paid B shares.

**HUELVA MINERAL COMPANY**, 3000*l.*, in 300 shares, of 10*l.* each, with power to increase.—The objects for which this company is established are the buying or raising of ores; the transmitting and shipping of the same; and the purchasing, renting, or leasing of mineral tracts, either in Spain or elsewhere. The Memorandum is signed by—CHRISTIAN ALLHUSSEN, Elswick Hall, Newcastle-on-Tyne, merchant, 110; HENRY CHRISTIAN ALLHUSSEN, Park House, Gateshead-on-Tyne, chemical manufacturer, 25; JAMES MORISON BURNUP, 40, Eldon-street, Newcastle-on-Tyne, merchant, 90; GEORGE WILKINSON WELTON, Summerhill House, Newcastle-upon-Tyne, contractor, 50; ALFRED ALLHUSSEN, Park House, West Gateshead, chemical agent, 1; WILLIAM HUTT ALLHUSSEN, Elswick Hall, Newcastle-on-Tyne, merchant, 1; CUTHBERT BURNUP, 1, Wardle-terrace, Newcastle-on-Tyne, master mariner, 2; ERNEST BURNUP, 1, Wardle-terrace, Newcastle-on-Tyne, agent, 5; WILTON ALLHUSSEN, Elswick Hall, Newcastle-on-Tyne, chemical manufacturer, 13. Number of directors three. First directors, CHRISTIAN ALLHUSSEN, JAMES MORISON BURNUP, and WILTON ALLHUSSEN. GEORGE WILKINSON WELTON shall be the company's manager, and CUTHBERT BURNUP the company's clerk in Spain; the latter at a salary of 200*l.* a year. GEORGE W. WELTON shall for his services be paid 2*l.* 6*d.* per ton on all manganese ore purchased by him on behalf of the company.

**CHONTALES.**—The directors have just appointed a new commissioner, who bears the highest testimonials; and, having had sixteen years practical experience, is thoroughly acquainted with every branch of gold mining. It is important to know that the directors are taking decisive measures for placing the management on a footing that shall ensure every consideration for economy in the expenditure, as well as far more regularity in the remittances from the mines. There seems good reason to hope that a most beneficial change will speedily result. The first report from the newly-appointed commissioner upon the several mines, and also upon the practical effectiveness of the erected machinery, will be looked forward to with considerable interest. This will be received about April or May.

**THE COMPANY OF THE ROYAL MINES OF COBRE.**—No letters were received by the last West Indian mail, the latest news being received by the telegram from Havana, dismissing the appeal of the railway company, and deciding in favour of the mining company. The directors are expecting the arrival of Mr. Clemes in this country, to consult with them as to future operations. Beyond the telegram above referred to no further details could yet be received, sufficient time not having elapsed for the receipt of the ordinary letters. In the statement of accounts published last year it was stated that the Cobre Company had a claim for a certain sum for over-payments from the railway company; and it may be concluded that proper steps will now be taken to recover the amount. As to the present financial position of the company, it is understood that when the calls now pending are fully paid, and the amount over-paid to the railway company is recovered, the Cobre Company will be clear of debt.

**SONORA SILVER MINING COMPANY.**—Advices from these mines continue to arrive of a very encouraging character, corroborating the expectations of the reports made on the spot by Mr. Fetherick and Mr. Clemes. The company is progressing in a satisfactory manner towards completion.

**JOINT-STOCK COMPANIES.**—The prospect of a revival in commercial affairs will naturally create a desire amongst the many who have mineral and other properties to offer to the public as investments to possess as intimate an acquaintance as possible with the laws by which public companies are governed; attention may, therefore, be directed to the new edition of the admirable little handbook—"JOINT-STOCK COMPANIES: HOW TO FORM THEM"—by Mr. Thomas Tapping, barrister-at-law, which has just been issued for half-a-crown. The author's object has been to furnish not only an epitome of the law as it stands, but also to express it in popular and intelligible language; in this he has thoroughly succeeded, and as the whole of the information has been arranged in the form best calculated to meet the wants of the non-professional reader, it can scarcely fail to be favourably received. The book is published at the Mining Journal office, and will be forwarded, on receipt of the amount, to those requiring it.

\* \* \* With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—South Wales Institute of Engineers: report of Meeting, in which the subject of Mechanical Ventilation is discussed—On the report from the Select Committee of the House of Commons on Mines, 1867—The Ferndale Colliery Explosion and the Government Inspection of Mines, by J. Richardson, C.E.—On Colliery Explosions—Prevention of Gas Explosions in Collieries, No. II., by G. J. Günther—Nitro-Glycerine, by Webb and Co.—Iron Pyrites, by John Phillips—Gold, Salt, and Sulphur Mines in Canada, by Alex. Somerville—Gold in New Zealand: the Thames Gold Fields, by Parke Pittar—West of Ireland: the Mineral and other Resources of the Curruan Estate, by Edmund Spargo—Devon and Cornwall Mining, by Charles Thomas—Llanfair Green and Blue Slate Quarry, by Thomas Harvey and Samuel Jenkins—Telegrams—The Boring-Machine.

## The Mining Market; Prices of Metals, Ores, &amp;c.

METAL MARKET—LONDON, JANUARY 3, 1868.

COPPER.	£ s. d.	£ s. d.	IRON.	Per ton.
Best selected...p. ton	75	0	6	0
Tough cake and tile	73	10	0	74
Sheathing & sheets	77	0	78	0
Bolts	83	0	—	—
Bottoms	85	0	—	—
Old (Exchange)	66	0	67	0
Burr Burr	79	10	80	0
Wire...per lb.	0	1	0	1 1/2
Tubes	0	11	12	1
BRASS.	Per lb.			
Sheets...per lb.	9d.	—	Do. mch.	Tyne or Tees 6 l.
Wire	8½d.	—	Do.	railway, in Wales 5 l.
Tubes	10½d.	—	Do.	Swed. in London 10 l.
Yellow Metal Sheath.p. lb.	7½d.	—	To arrive	10 l.
Sheets	6½d.	—	Pig No. 1, in Clyde	2 1/2 l.
SPelter.	Per ton.		Do. f.o.b. Tyne or Tees 2	9 l.
ZINC.	Per ton.		No. 3, 4, f.o.b. do.	2 6 l.
TIN.	STEEL.	Per ton.	Railway chairs	5 l.
English blocks	96	0	spikes	10 l.
Do., bars (in barrels)	97	0	Ditto, WB	21 l.
Do., refined	99	0	Ditto, ordinary soft	20 l.
Banca	90	0	Ditto, sheet	20 l.
Straits	87	0	IX Coke	15 l.
TIN-PLATES.*	Per box.		IX Ditto	16 l.
IC Charcoal, 1st qua.	1	6	1	6 l.
IX Ditto, 1st quality	1	12	2	12 l.
IX Ditto, 2d quality	1	4	2	12 l.
IX Ditto, 2d quality	1	10	1	12 l.
IX Ditto, 2d quality	1	12	2	12 l.
IX Ditto	1	7	6	12 l.
LEAD.	Per ton.		Ditto, red lead	20 l.
English Pig.com...	18	15	Ditto, white	27 l.
Ditto, LB.	19	10	Ditto, patent shot	22 l.
Ditto, WB	21	10	Ditto, white	30 l.
Ditto, ordinary soft	20	0	Canada plates, p.ton.	13 l.
Ditto, sheet	20	0	Ditto, white	37 l.
IX Coke	20	15	Ditto, white	37 l.
IX Ditto	20	15	Ditto, white	37 l.
IX Ditto	20	15	Ditto, white	37 l.
Quicksilver (p. bottle)	6	17	Ditto, white	37 l.
LEAD.	Per ton.		Spanish	18 l.
English Pig.com...	18	15	Spanish	18 l.
Ditto, LB.	19	10	Spanish	18 l.
Ditto, WB	21	10	Spanish	18 l.
Ditto, ordinary soft	20	0	Spanish	18 l.
Ditto, sheet	20	0	Spanish	18 l.
IX Coke	20	15	Spanish	18 l.
IX Ditto	20	15	Spanish	18 l.
IX Ditto	20	15	Spanish	18 l.
Quicksilver (p. bottle)	6	17	Spanish	18 l.
LEAD.	Per ton.		Spanish	18 l.
English Pig.com...	18	15	Spanish	18 l.
Ditto, LB.	19	10	Spanish	18 l.
Ditto, WB	21	10	Spanish	18 l.
Ditto, ordinary soft	20	0	Spanish	18 l.
Ditto, sheet	20	0	Spanish	18 l.
IX Coke	20	15	Spanish	18 l.
IX Ditto	20	15	Spanish	18 l.
IX Ditto	20	15	Spanish	18 l.
Quicksilver (p. bottle)	6	17	Spanish	18 l.
LEAD.	Per ton.		Spanish	18 l.
English Pig.com...	18	15	Spanish	18 l.
Ditto, LB.	19	10	Spanish	18 l.
Ditto, WB	21	10	Spanish	18 l.
Ditto, ordinary soft	20	0	Spanish	18 l.
Ditto, sheet	20	0	Spanish	18 l.
IX Coke	20	15	Spanish	18 l.
IX Ditto	20	15	Spanish	18 l.
IX Ditto	20	15	Spanish	18 l.
Quicksilver (p. bottle)	6	17	Spanish	18 l.
LEAD.	Per ton.		Spanish	18 l.
English Pig.com...	18	15	Spanish	18 l.
Ditto, LB.	19	10	Spanish	18 l.
Ditto, WB	21	10	Spanish	18 l.
Ditto, ordinary soft	20	0	Spanish	18 l.
Ditto, sheet	20	0	Spanish	18 l.
IX Coke	20	15	Spanish	18 l.
IX Ditto	20			

have risen from 52 to 71, and stand now at 67, after having paid 24,000*l.* in dividends during the year. Prince of Wales, to the merits of which we have directed attention in this article since the shares were at 1s. 6d. each, have risen from 26*s.* to 70*s.*, and now stand at 52*s.*, after paying 3*s.* 6*d.* per share in dividends. Great Laxey has fluctuated very little, and the shares are within a trifle of what they were last year, after paying 30,000*l.* in dividends. Great Wheal Vors have risen from 15 to 17, after paying 8862*l.* in dividends. West Setons have advanced from 125 to 195, and paid in dividends 8200*l.* Wheal Setons have declined from 140 to 87*s.*, and have paid 6732*l.* in dividends. Among smaller and more speculative mines there has been several great rises, among which Retallack rose from 1 to 5*s.*; Carn Brea, 8 to 28*s.*; East Gunnislake and South Bedford from a mere nominal price to 40*s.*; Great Fortune, from nothing to 7*s.*; South Tolgus, 7*s.* 6*d.* to 24*s.*; West Bassett, 18*s.* to 2*s.* Thirty mines paid dividends in 1867, amounting in the aggregate to 268,258*l.* 9*s.* Among foreign mines not included in the above, St. John del Rey Gold Mines paid 96,250*l.*; and Don Pedro del Rey Gold, 38,000*l.*

## LIST OF DIVIDENDS PAID BY BRITISH MINES IN 1867.

No. of shares.	Dividend per share.	Total.
1200 Alderley Edge	20 5 0	£ 375 0 0
4000 Brookwood	0 5 0	500 0 0
1000 Bronfloyd	0 16 0	800 0 0
128 Cwmystryth	2 0 0	256 0 0
567 Cwmyrfin	3 0 0	2,601 0 0
509 Croesgwynne and Penkevill	1 0 0	509 0 0
1024 Devon Great Consols	39 0 0	39,936 0 0
258 Dolgoath	19 0 0	6,802 0 0
280 Derwent	5 0 0	1,400 0 0
656 Ding Dong	0 10 0	328 0 0
300 East Darren	6 0 0	1,800 0 0
128 East Pool	25 0 0	3,200 0 0
1906 East Lovell	1 4 2	2,302 15 0
6144 East Cardon	0 6 0	1,843 4 0
2800 Foxdale	1 0 0	2,800 0 0
5008 Great Wheal Vor	1 10 0	8,862 0 0
15000 Great Laxey	2 0 0	30,000 0 0
1024 Herodsfoot	4 10 0	4,608 0 0
4255 Kitty (St. Agnes)	0 4 0	839 0 0
406 Liskeard	3 0 0	1,200 0 0
9000 Marks Valley	0 12 0	5,400 0 0
1800 Minera	18 5 0	84,555 0 0
3000 Maes-y-safn	2 0 0	6,000 0 0
1129 Providence	2 5 0	2,529 0 0
6000 Prosper United	0 5 0	1,500 0 0
12800 Prince of Wales	0 3 6	2,219 0 0
496 South Frances	2 0 0	992 0 0
512 South Cadom	35 0 0	17,918 0 0
6000 South Darren	0 3 0	900 0 0
508 Summer Hill	0 17 6	444 10 0
2000 Trumpet Consols	1 0 0	2,000 0 0
6000 Tincoff	0 15 0	4,500 0 0
400 West Seton	20 10 0	8,200 0 0
3000 West Chiverton	8 0 0	24,000 0 0
396 Wheat Seton	17 0 0	6,732 0 0
1024 Wheat Bassett	7 0 0	3,584 0 0
3000 Whitewell	3 0 0	3,072 0 0
17000 Wicklow Copper	1 15 0	30,000 0 0
Total	£268,258 9 0	

There has been an increased business doing in the Mining Market on the Stock Exchange during the week, and prices in many instances have advanced. It would appear that the public generally are inclined to look upon mining investments with more favour. Pestarena United, Don Pedro, Rossa Grande, Port Phillip, and Central American have been in especial request. Frontino and Bolivia and Chontales have been dull. Referring to our remarks last week we find that the amount of gold remitted by the agent of the Pesta-rena United Gold Mining Company since the amalgamation in March last is as follows:

May 10.....	Ozs. 1308-975	Realising £ 4,286 13 0
June 15.....	1154-950	3,820 16 7
July 24.....	1111-200	3,694 12 0
Sept. 6.....	1062-500	3,546 1 3
Oct. 18.....	1045-150	3,458 13 2
Nov. 6.....	454-725	1,515 2 2
Dec. 17.....	1045-675	3,461 10 2
Ozs. 7183-175	£22,783 8 4	
Advice of upwards of 450 ozs. on its transit to office (say)	1,500 0 0	
Total	£25,288 8 4	

This is at the rate of about 3300*l.* per month, or 40,000*l.* per annum. The following are the closing quotations:—St. John del Rey, 57*s.* to 58*s.*; Don Pedro, 2*s.* to 2*s.* prem.; Anglo-Brazilian, par to 1*s.* prem.; Pestarena, 1*s.* dis. to 1*s.* prem.; Chontales, 1*s.* to 1*s.* dis.; Rossa Grande, 1*s.* to 1*s.*; Rossa Grande (paid up), 1*s.* to 1*s.*; Anglo-Italian, par to 1*s.* prem.; United Mexican, 1*s.* to 1*s.*; Frontino and Bolivia, 1*s.* to 1*s.*; Port Phillip, 1*s.* to 1*s.*, having been in request, in anticipation of the forthcoming dividend; Central American, 1*s.* dis. to par; Anglo-Argentine, 1*s.* to 1*s.* prem.; English and Australian Copper, 1*s.* to 1*s.*; Panucillo Copper, 1*s.* to 1*s.*; Kapunda, 5-16 to 7-16; Yudanamutana, 7*s.* to 1*s.*; Scottish Australian, 1*s.* to 1*s.*. In British Mines, West Chiverton shares have risen to 66*s.*, 67*s.*; the mine is looking well. Chiverton shares are about 5*s.*; Chiverton Moors are very firm, at 5*s.* to 5*s.*. Prince of Wales shares have risen to 53*s.*, 55*s.*; there are several points of improvement in the mine. New Setons have risen, and are in demand at 67*s.* to 70*s.*; Carn Brea, 22 to 24, and enquired after; Great Laxey are firm, at 17*s.* to 18*s.*; Great Vor shares are steady, at 17 to 17*s.*; Maes-y-Safn, 27 to 28*s.* Westminster (Limited), 5 to 5*s.*; the prospects are reported of a very high order. Minera, 170 to 175.

At Redruth Ticketing, on Thursday, 2165 tons of ore were sold, realising 10,067*l.* 6*s.* The particulars of the sale were:—Average standard, 105*s.* 3*s.*; average produce, 7*s.*; average price per ton, 4*t.* 13*s.*; quantity of fine copper, 152 tons 7 cwt.s. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Dec. 5.....	3395	£112 1 0	61 <i>s.</i>	£24 6 0	13 <i>s.</i> 8 <i>s.</i>	£28 8 0
.. 12.....	1889	113 16 0	61 <i>s.</i>	4 7 0	13 11	69 12 0
.. 19.....	3852	117 16 0	57 <i>s.</i>	4 3 0	14 2	70 19 0
.. 26.....	1835	104 2 0	75 <i>s.</i>	5 9 6	13 10 <i>s.</i>	69 6 0
Jan. 2.....	2165	103 3 0	7 <i>s.</i>	4 13 0	13 2 <i>s.</i>	68 1 6

Compared with last week's sale, the decline has been in the standard 2*s.*, and in the price per ton of ore about 3*s.* Compared with the corresponding sale of last month, there has been about a corresponding decline.

IRISH MINE SHARE MARKET.—New Year's day has been kept a close holiday here, which, together with its attendant preparations for social enjoyments, has greatly interfered with business of every description on our Stock Exchange. But there is some hope that on returning activity our mining shares, at least, will be looked up with increased attention, and that quotations of them will improve accordingly. In anticipation of a 10 per cent. dividend (since declared by the company) the Mining Company of Ireland shares, which we last week quoted at 16*s.* 10*s.* sellers, have been dealt in at 16*s.* 15*s.* for cash and 17*s.* for the end of this month, thus establishing an advance for the week of from 10*s.* to 15*s.* per share (7*s.* paid). Wicklow Coppers, on which the customary payment of a dividend is not so close at hand, have been dull, but the few which could be procured at a reduction on last quotation were quickly taken, transactions having thus been effected at 16*s.* 12*s.* to 16*s.* 15*s.* (2*s.* 10*s.* paid). Connoras are freely offered for sale at 5*s.* 6*d.* In other mines there were scarcely any enquiries.

The Mining Company of Ireland held a half-yearly meeting of shareholders on Thursday last. We intend giving a fuller report of their proceedings in our next Journal, stating for to-day only the fact most interesting to the mining public at large, that, from the detailed statement by the directors, it clearly appears that the company's property in copper, lead, and coal mines is in as prosperous a condition as at any former period, excepting only so far as the value of their produce is affected by the depression of the metal market. It is, therefore, a subject for congratulation that in the face of such a difficulty the company has been able to realise a net profit for the half-year ended on November 30 last of 7863*l.* 16*s.* 5*d.*, which has enabled the company to declare a dividend at the rate of 10 per cent. per annum. Many of our readers will hear with great interest what the Chairman (Mr. Thomas Bewley) said to the meeting in reference to the Chilean supply of copper ores. In the course of his explanatory address he stated—"We heard a great deal about the Australian mines, but they are out of court now. In the same way, about the Cape of Good Hope copper mines, but they are very much

in the same condition, and the imports from them are falling off. And Chili, from which five-sixths of all the copper produced in the world comes, has experienced a depression. One of the mines worked by a wealthy English company" . . . has, according to their last report, realised a loss of 25,000*l.* upon a produce of 5000 tons of metallic copper for the respective 12 months. "The consequence of that is, I think, that production in those mines must fall off, and that consumption being as great, if not greater than ever, an advancing price must result."

At the Hington Down Consols Mine meeting, on Dec. 27 (the Rev. C. J. Fynes-Clinton in the chair), the accounts showed a cash balance in hand of 566*l.* 0*s.* 4*d.* The report of Capt. T. Richards stated that the cost for the ensuing four months was estimated at 640*l.* per month, and the next sale of ore would be about 340 tons.

At West Godolphin Mine meeting, on Tuesday (Mr. W. C. Vivian in the chair), the account showed a balance of assets over liabilities of 613*l.* 2*s.* A dividend of 250*l.* (2*s.* per share) was declared.

At Great South Tolgus Mine meeting (Mr. W. A. Thomas in the chair), the accounts showed a balance in favor of company of 232*l.* 2*s.* 2*d.* The liabilities amounted to 756*l.* 17*s.* 2*d.*, and the assets to 184*l.* 17*s.* 7*d.* Of the 547 shares forfeited at the special general meeting, but ordered to be restored at the last general meeting on payment of the calls, 43*s.* had been paid upon, leaving a balance of 11*s.* which were absolutely forfeited. The application for the restoration of certain other forfeited shares was not entertained. A letter from Mr. Francis Pryor was read, when it was resolved that the suggestion therein made—that the forfeited and relinquished shares be allowed to merge into the company—be not allowed, as much inconvenience might arise therefrom, and that, inasmuch as Capt. Daw signified his intention to prosecute the mine with proper vigour, it is only necessary to request him to continue operations, without unduly extracting the ore. The report referred to the fact that the discovery in the 140, west of Nool's, will make up for the falling off. In the 140 east, Capt. Daw considered the mine to be looking satisfactory, and he thought the returns would about meet the cost.

At East Carn Brea Mine meeting (Mr. W. A. Thomas in the chair), the accounts showed a balance in hand of the treasurer of 428*l.* 7*s.* 8*d.* The report stated that the lodes at the greater number of the points of operation are very promising, and, judging from the run of ore ground passed through in the 80 fathom level, west of Thomas's engine-shaft, also the improvement of the lode in the shaft, Capt. Isaac Richards has no doubt that they will meet with good discoveries at deeper levels. The permanent pitwork having been placed in Thomas's engine-shaft, they are now able, although the water has considerably increased, to keep in fork without the assistance of the old engine two-thirds of the time. They hoped to sample, during the next two months, 360 tons of copper ore, and the cost for that period will be about 800*l.* per month. During the discussion which took place upon the position and prospects of the mine, an opinion was expressed to the effect that, as two large cross-courses traversed the sett, and that there were eight known lodes, some good discoveries would soon be made.

At the Llanberis Slate Company annual general meeting, on Tuesday (Mr. H. Haymen in the chair), the directors' report was adopted. Details will be found in another column.

On the Stock Exchange there has been a moderate demand for Mining Shares during the week. The following prices were officially recorded in British Mining Shares:—Grenville, 1 15-16*s.*; Prince of Wales, 2*s.*; Great Laxey, 77*s.*; Great Wheal Vor, 17*s.*; Tincoff, 13*s.*—In Colonial Mining Shares the prices were:—Port Phillip, 1 16-17*s.* to 1*s.*; Scottish Australian, 1*s.*—In Foreign Mining Shares the prices were:—St. John del Rey, 58*s.*, 58*s.*, 57*s.*, 57*s.*; Don Pedro, 3, 2 15-16*s.*; Prosper United, 2*s.*; Chontales, 3*s.*, 3*s.*, 3*s.*; Frontino and Bolivia, 13-16*s.*; Rossa Grande, 9-16*s.*; Pestarena, 2*s.* to 2*s.*; West Godolphin, 1*s.* to 1*s.*; Port Phillip, 1*s.* to 1*s.*; Scottish Australian, 1*s.* to 1*s.*. In British Mines, West Chiverton shares have risen to 66*s.*, 67*s.*; the mine is looking well. Chiverton shares are about 5*s.*; Chiverton Moors are very firm, at 5*s.* to 5*s.*. Prince of Wales shares have risen to 53*s.*, 55*s.*; there are several points of improvement in the mine. New Setons have risen, and are in demand at 67*s.* to 70*s.*; Carn Brea, 22 to 24, and enquired after; Great Laxey are firm, at 17*s.* to 18*s.*; Great Vor shares are steady, at 17 to 17*s.*; Maes-y-Safn, 27 to 28*s.* Westminster (Limited), 5 to 5*s.*; the prospects are reported of a very high order. Minera, 170 to 175.

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## WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,  
MINING AGENTS, STOCK AND SHARE DEALERS, &c.  
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS beg to notify to their friends and the public generally that Mr. W. H. CUELL has retired from the firm, in accordance with a clause in the deed of partnership; and having also sold to the remaining partners all his right, property, and interest in the business hitherto carried on by J. Y. WATSON, F.G.S., NAPOLEON FREDERICK WATSON, and himself, under the name of "WATSON AND CUELL," the same will be carried on in future by Mr. J. Y. WATSON and Mr. N. F. WATSON, under the designation of "WATSON BROTHERS," and they take this opportunity to return their most sincere thanks for the great patronage bestowed and confidence reposed in the firm for 24 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and of the state of the share market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1845, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the mobile funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

Devon Great Consols has sold this year 20,067 tons of copper ore, for 94,510*l.*, and divided 39,936*l.*, or 39*l.* per share. The mine looks well, has about 300,000*t.* of reserves, and bids fair to pay the same, if not increased, dividends, for years to come. At 40*l.* the mine pays near 10 per cent.—West Chiverton is our richest lead mine, and has sold this year 3932 tons of lead, for 58,205*l.*, and paid in dividends 24,000*l.*, or 8*l.* per share. The reserves are large, and large quantities of productive ground are being laid open every month. At 6*l.* the mine pays about 12 per cent., at the present rate of dividends, but there is reason to expect an increased quarterly dividend.

PRINCE OF WALES.—The bottom level (the 55) has gone over a course of ore 50 fathoms in length, and the ends are approaching points where improvements may be looked for. Some places in this level have been richer than anything seen in the 45 fathom level, but the average value has not been so great. No one can say positively how the lode will be cut in the 65 (in January), but appearances at present warrant the expectation of its being equally good as in the 55, and if it be so, it will establish the mine, and there will, probably, be a considerable rise in the price of shares. The costs of putting up the new drawing engine have been, and are still, heavy, and for a time will affect the profits; but the agent promised, eventually, to pay for the engine and cost of erection out of the halvans on the mine. The mine has sold this year 1213 tons of ore, for 875*l.*, 11*s.* 7*d.*, and paid in dividends 221*l.*, or 3*s.* 6*d.* per share, and altogether looks promising for one of the most successful mines of 1868.

WEST PRINCE OF WALES, during the year, has had all its machinery erected and paid for, and is now in full course of operation on the same lodes as Prince of Wales, and we look for the same results. It is a good speculation in the Progressive List, with no prospect of a fall for many months.

WEST DRAKE WALLS—bordering Prince of Wales to the east, as West Prince of Wales does to the west—is a fine speculation at a low price. Here the lode has been cut, and the machinery erected to work it.

WEST WHEAL FRANCIS is one of the most promising progressive mines, and but for the price of the would have paid dividends years ago, when shares were at 4*l.* each; at present the mine is about paying cost. In the engine-shaft they are approaching a very important point; it is now sunk about 87*f.m.* below the 10*f.m.* level, and in 3 or 4*f.m.* more sinking the south lode will form a junction with the engine lode. This south lode is the one which has been so rich in the adjoining mine, West Basset, and although so far in West Francis it has been poor, yet the junction of two master lodes like these cannot, it is thought, fail to produce good results. On the engine lode a large amount of average quality tin ground is being laid open, which can be advantageously worked at the present price of tin.

SATURDAY, DEC. 28.—Market still quiet. Great North Laxey shares in chief demand. Great Laxey, Chiverton, and West Chiverton also dealt in. West Chiverton, 6*l.* to 6*l.*; Wheal Chiverton, 5*l.* to 5*l.*; Great Laxey, 17*l.* to 18*l.*; Great North Laxey, 12*l.* 6*d.* to 15*l.*; Chontales, 3*l.* to 3*l.*; Chiverton Moor, 5*l.* to 5*l.*

MONDAY.—Settling-day: still a fair amount of business doing. Grenville shares advanced to 27*s.* 6*d.*, 30*s.*; Chiverton Moor, 5*l.* to 5*l.*; Chontales Gold, 3*l.* to 3*l.*; West Chiverton, 6*l.* to 6*l.*; East Gunnislake, 3*l.* to 4*l.*

TUESDAY.—Market quiet. Prince of Wales shares in good demand, and at an advance. Chiverton and West Chiverton shares also in request. West Chiverton, 6*l.* to 6*l.*; Wheal Chiverton, 5*l.* to 5*l.*; Chiverton Moor, 5*l.* to 5*l.*; Great North Laxey, 12*l.* 6*d.* to 15*l.*; Wheal Seton, 8*l.* to 8*l.*; Prince of Wales, 4*l.* to 5*l.*

WEDNESDAY, being New Year's day, was a holiday in the Stock and Mining Exchanges.

THURSDAY.—Market better. Prince of Wales advanced to 5*l.* 6*d.*; Chiverton Moor, West Chiverton, West Prince of Wales, North Treskerby, Carn Brea, East Grenville, Great South Tolpuddle, Clifford, and North Crofty in demand, at better prices. Chiverton Moor, 5*l.* to 5*l.*; Chontales, 3*l.* to 3*l.*; Great South Tolpuddle, 2*l.* to 2*l.*; West Chiverton, 6*l.* to 6*l.*; West Prince of Wales, 9*s.* to 10*s.*; Wheal Grenville, 2*l.* to 2*l.*

FRIDAY.—Market pretty active. Prince of Wales shares firm, at 5*l.* 6*d.*. West Chiverton, Chiverton Moor, South Frances, Carn Brea, Great Laxey, and East Gunnislake in demand. West Chiverton, 6*l.* to 6*l.*; Seton, 8*s.* to 8*s.*; Marke Valley, 6*s.* to 7*s.*; Great Laxey, 17*l.* to 18*l.*; East Grenville, 1*l.* to 2*l.*; Carn Brea, 2*l.* to 2*l.*

Just published, price 2*s.* 6*d.*

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**S T A T I S T I C S O F T H E M I N E S O F C O R N W A L L A N D D E V O N , W I T H O B S E R V A T I O N S U P O N T H E M .**  
By THOMAS SPARGO, STOCK AND SHAREDEALER, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

I beg to inform the mining interest that my work, under the above title, will be issued at the end of this month. It will contain the following particulars—viz., the geological position, present prospects, names of purser, manager, and secretary, with statement of the annual returns of each mine during the last two years, and of total dividends paid to the present time. The work will be illustrated by a map of Cornwall and Devonshire; geological district maps, divided into eight sections, in which will be shown the boundary lines of each parish, height of hills, sources of rivers, &c.; maps of St. Just, St. Ives, Marazion, Helston, Gwinnar, Chiverton, Bodmin, Liskeard, Devon Great Consols, Asburton, and Exmouth mining districts, showing boundary lines of each property, with the lodes, &c., traversing them.

It will also contain transverse and longitudinal sections of Dolcoath Mine (kindly supplied by Captain Charles Thomas); section of workings in Botallack Mine (supplied by the manager, S. H. James, Esq.); longitudinal sections of workings upon the main lode in Great Wheal Vor and Treseyan Mines; Geological map of the Fowey district (supplied by Major Davis, R.M.); historical account of the Devon Great Consols, and of all the principal mines in the two counties.

**T H E G O L D M I N E S O F N O V A S C O T I A .**

UNDER OFFICIAL PATRONAGE.

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## NOTICES TO CORRESPONDENTS.

\*\* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

**C H L O R I D E O F M A G N E S I U M .**—Can anyone inform me where I can obtain this article in its "crude" state at a low price in large quantities? —A CONSTANT SUBSCRIBER FOR FIFTEEN YEARS.

**B O R I N G M A C H I N E R Y .**—The most reliable boring machines yet proposed is probably that of Mr. Abegg; it was not intended to bore at the high speed promised by the Inventor of the steam machines, but it facilitated hand labour.

**S H A R E D E A L I N G .**—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

THE MINING JOURNAL,  
Railway and Commercial Gazette.

LONDON, JANUARY 4, 1868.

During the quarter ending Dec. 31 the quantity of copper ore, the produce of Cornwall and Devonshire, sold at the Cornish Ticketing, was 30,981 tons, which contained 2058 tons 3 cwt. of fine copper, and realised 142,140*l.* 6*s.* 6*d.*, being equal to an average of 47*l.* 1*s.* 9*d.* per ton of ore, and 69*l.* 1*s.* 6*d.* per ton of copper in the ore. During the same period the British, colonial, and foreign ores sold at Swansea, amounted to 10532 tons, which contained 2083 tons 9*l.* 2*s.* cwt. of fine copper, and realised 148,827*l.* 12*s.* 6*d.*, being equal to an average of 14*l.* 2*s.* 7*d.* per ton of ore, and 71*l.* 8*s.* 6*d.* per ton of copper in the ore. The average produce of the ore sold at the Cornwall Ticketing was 6*l.* 6*s.* per cent., whilst that sold at Swansea gave an average produce of about 1*l.* 1*s.* per cent. From this it will be seen that the aggregate sales by ticket were 41,513 tons of ore, containing 4141 tons 12*l.* 2*s.* cwt. of fine copper, and realising 290,967*l.* 19*s.* The subjoined is a summary of the periodical sales at the Cornwall and Swansea Ticketings respectively. The ore sold at the Cornish Ticketing was—

Date.	Stand.	Prod.	Price.	Per unit.	Tons ore.	Fine cop.	Amount.				
Oct. 3..	£110	3 ..	6 <i>l.</i> ..	£24	7	0 ..	13 <i>s.</i> 6 <i>d.</i> ..	3200 ..	205 19 ..	£13,890 11 0	
" 10..	111	19 ..	6 <i>l.</i> ..	4	6	0 ..	13	8 ..	1737 ..	109 13 ..	7,497 18 6
" 17..	115	5 ..	6 <i>l.</i> ..	4	7	0 ..	14	1 <i>s.</i> ..	3710 ..	228 19 ..	16,183 14 0
" 24..	102	0 ..	8 <i>l.</i> ..	5	18	0 ..	13	11 ..	1498 ..	126 17 ..	8,818 11 0
" 31..	101	9 ..	8 ..	5	7	0 ..	13	4 ..	2073 ..	165 15 ..	11,110 4 6
Nov. 7..	110	8 ..	6 <i>l.</i> ..	4	6	0 ..	12	9 ..	1541 ..	94 12 ..	6,208 6 6
" 21..	113	8 ..	6 <i>l.</i> ..	4	8	6 ..	13	11 <i>l.</i> ..	4033 ..	254 15 ..	17,793 2 6
" 28..	105	9 ..	7 <i>l.</i> ..	5	5	6 ..	13	10 <i>l.</i> ..	2218 ..	168 19 ..	11,719 18 0
Dec. 5..	112	1 ..	6 <i>l.</i> ..	4	6	0 ..	13	8 ..	3395 ..	213 18 ..	14,634 2 6
" 12..	113	16 ..	6 <i>l.</i> ..	4	7	0 ..	13	11 ..	1889 ..	117 11 ..	8,181 12 6
" 19..	117	16 ..	5 <i>l.</i> ..	4	3	0 ..	14	3 ..	3852 ..	226 3 ..	16,046 4 0
" 26..	104	2 ..	7 <i>l.</i> ..	5	9	6 ..	13	10 <i>l.</i> ..	1835 ..	145 2 ..	10,056 1 6

Total for the quarter..... 30,981 .. 2058 3 .. 142,140 6 6  
Quarter ending September, 1867..... 29,410 .. 2008 14 .. 137,216 19 0  
Quarter ending June, 1867..... 30,298 .. 1992 9 .. 140,078 11 0  
Quarter ending March, 1867..... 29,077 .. 1968 6 .. 138,295 11 6  
Total for the year ..... 119,766 .. 8027 12 .. 557,731 8 0  
Showing a quarterly average of .. 29,941 .. 2006 18 .. 139,432 1

in the English and Welsh markets. Foreign shipments, on the contrary, have increased about 40,000 tons, the United States and British America alone contributing 30,000 tons towards this. Of the stocks, the returns speak for themselves.

**SHIPBUILDING.**—This important branch of local industry, which for the past two years has been much depressed, begins to show renewed vitality; enquiries are more numerous, and the number of vessels contracted for compares favourably with that of last year. There were built in 1867, 181 iron vessels of 97,500 tons, against 188 of 116,996 tons in 1866, and 229 of 146,700 tons in 1865; and there are now building 113, of 112,360 tons, against 84 of 70,000 tons in 1866, and 152 of 129,700 tons in 1865. Besides others, the keels of which have not yet been laid down.

With the exception of this latter branch of the iron trade, the immediate prospect of improvement is not well defined, and the feeling of employers in Scotland, we believe, is that, unless labour is reduced in price, and workmen become more considerate of economy in working, the present depression will become aggravated, and a dead-lock ensue. We hope our working men will be so considerate of the delicate state of matters that this latter alternative will be nobly averted.

#### IRONWORKERS' UNIONS, AND EMIGRATION.

The ironmasters of Staffordshire are much annoyed by the action of the men who lately carried on the North of England Ironworkers' Union having migrated to Walsall, where they are agitating to bring about one Union of ironworkers, comprising all the millmen, the furnacemen, and the puddlers throughout the United Kingdom. The project has led to several conferences, hitherto, however, without effect; and its revival is, probably, due to the non-success of the last effort to coerce the masters. It was put forth in the North, and failed signally. At that time there were two Unions—the one at Gateshead and the other at Brierley Hill. The strike was directed exclusively by the Northern Union, and it obtained only very partial support from the Southern. The failure virtually broke up the Northern Union, the president and secretary of which then removed into South Staffordshire. The Southern men will amalgamate only on condition of the one Union, having no paid president. Of course, these conditions are not suitable to the Northern officers; and the feud which sometime ago appeared is becoming more marked. Very harsh language is being used towards the officers of the Southern Union; and to stir up the workmen outrageous accusations are being brought against the masters. It is clear that the agitators experience difficulty in conjuring up a grievance. As they cannot excite discontent against the masters, they try to make the men uncomfortable at home, by endeavouring to promote emigration; and they propose to solicit the assistance of Mr. ELIHU BURRITT, the United States Consul in Birmingham, but this is not likely to prove successful. Emigration has been tried by the Southern Union, and large sums of money have been spent upon it, but the men are now convinced that they have paid too dearly for their whistle. Only a few men who went to New Zealand remain out; those sent to the United States have all returned. They came back when there was more employment in America than at this time.

The unfitness of these agitators for leaders is conclusively illustrated by their advocating so Utopian a project as emigration, especially to the United States. The workmen have no money of their own, nor Association funds to defray the cost even of their passage; and in so uninviting a condition are the United States at present, that 400 emigrants are returning to Europe every week, and yet leave 60,000 working men and women idle in New York alone, of whom 7000 are ironworkers, boiler makers, and the like. No ironworkers in Staffordshire will be induced by such delusions to interfere with employers, who, by their decision on Thursday, evinced a determination to enter the lists with competitors and contest for the market, even heavily weighted, rather than reduce wages. This view is confirmed by the circumstance that the meeting of the Millmen's Association was not attended by either the president, secretary, or any of the leading members, and that, therefore, they have not taken any part in passing these resolutions, which are to a very great extent contrary to the determination of millmen in general, and even contrary to the opinions of the Brierley Hill executive of puddlers. The millmen are determined not to amalgamate with the puddlers at all. At a meeting of millmen last week, this feeling was confirmed by formal resolution.

#### RAILS—IRON OR STEEL?

This question is now being well debated, which should give satisfaction to all concerned in the manufacture of either metal. The advocates of steel have received much support from the undoubted success of steel tyres and axles now being introduced on our leading railways. Steel for such uses is more enduring, and now even cheaper than the best quality of iron was formerly. But it remains to be proved that steel, price for price, is more economical for rails than really good coke iron, or charcoal and coke iron mixed.

Much has been written in the interests of the producers of steel rails, but until recently little has been said in favour of iron rails properly made. Ironmasters, who know that all rails are not of the "villianously" bad quality which competition and pecuniary exigencies have in some instances necessitated, should not hesitate to make these facts known, in the interests of themselves, of science, and of the general community. Much that has been said loses force through the interested character of the observations. It is, therefore, refreshing to have opinions of a purely disinterested authority. Such testimony is found in the joint report of Captain TYLER, Government Inspector of English Railways, and Mr. C. W. EBORALL, on the condition and prospects of the Grand Trunk Railway of Canada.

Captain TYLER, it appears, went to Canada upon the invitation of the directors of the company, who desired his views of their property, one extending over a distance of 1377 miles, but part of it a single line. The rails with which the Grand Trunk has been laid, whether from Wales or re-rolled in America, have proved very soft. The direct money loss to the company thereby in seven years Capt. TYLER estimates at 124,500£, but the indirect loss he estimates at a far greater sum. He says—

"The difficulty of obtaining durable rails of iron has of late years been very generally felt, and has induced an outcry for steel rails in quarters where it had not otherwise been heard. Much trouble has resulted, and much expense been incurred, for the want of rails of good quality in England, and still more in the United States and in Canada. The heavier rails laid down late years in the United Kingdom have in some cases been outlasted by the lighter rails of previous years."

After showing that the defects in these rails in Canada and the United States had been sufficient to induce everyone concerned to desire a change of some description, and almost to create a panic as to the effect of the climate, he goes on to say:—

"But I have, after careful inspection and enquiry, become convinced that iron rails of appropriate form, of suitably and reasonably good quality and of sufficient hardness in the heads, may be made to last on most parts of the main line for 15 years, and on the average of the Grand Trunk Railway for very much more. There are, in fact, rails now in the track which have carried a heavy traffic for periods varying from three up to even 20 years in spite of every disadvantage. As I have already stated, their section was weak, their quality too often inferior, their joint-fastenings bad, the sleepers often further apart than at present, and the ballasting defective. Their durability has, under these adverse circumstances, been in some cases extraordinary. Good iron rails of stronger form, on sleepers 2 ft. 6 in. apart, in good ballast, with well-fitted joints and well maintained, must give a still better result. The real question to be solved, as far as new rails are concerned, is how to obtain suitable material from the manufacturers. In the case of re-rolled rails, it is necessary to provide for the heads an iron which shall be sufficiently hard, and shall unite with that quality good welding to the remainder of the pile. I do not anticipate any difficulty in the latter case, when once the precise requirement is well understood. The best chance of procuring new rails of superior quality lies, probably, in insisting on a longer term of guarantee for rails supplied, in employing the most reliable manufacturers, and in paying a price commensurate with the value of the article. No manufacturer need have any fear of prolonging the guarantee to seven, or even ten years, if he only furnishes suitable rail; and, in order that there may be no doubt as to what is required, I have caused a number of samples to be taken from various parts of the track and forwarded to England, showing in sections of fracture those qualities which have failed most completely, and those which have best withstood the climate and the traffic. Some of the Coalbrook Dale iron from Montreal and Lachine, which has been in the track for that period, will probably last five years longer."

Of this there is no doubt. We have now before our minds an instance in which, in this country, the best portion of an extensive system is that which was, upon its formation, 18 years ago, laid down with rails which could pass the muster of directors who were them-

selves ironmasters in the district through which the line ran. These rails have recently been taken up, fished, the ends cut, and again laid. They are in a condition, perhaps, superior to their state when they were first laid. The wear they were first subjected to gradually solidified the top, which is now altered from its original shape only in being slightly flatter. These are not the most expensive class of iron rails, but are of a quality which could now be produced much below the price at which large contracts are being now taken for steel rails. Other instances of the long wear of good iron rails might be given; but in these remarks our object is merely to stimulate the investigations now being made. The railway companies are proceeding cautiously in the matter. The North-Western Company are not producing steel rails so largely as formerly. The North British Company received tenders on Tuesday for rails, in which the proportions were 3000 tons of iron and 500 tons of steel; and next Monday the Great Northern will receive offers for 3600 tons of iron and 620 tons of steel rails. It may well be hoped that, with a view to demonstrate the relative value of iron and steel rails, these companies may be able to accept iron of a quality which shall make the comparison complete.

#### MORE ABOUT IRON AND COAL UPON THE CONTINENT.

Amongst the most valuable of the information likely to be forthcoming, relative to technical education in Great Britain, is that contained in "a letter to the Vice-President of the Committee of Council," from Mr. BERNARD SAMUELSON, M.P. for Banbury, who, at the request of Government, went out to report upon the industrial progress of France, Switzerland, Germany, and Belgium, and on the methods adopted for the education of the industrial classes in those countries. The hon. gentleman says—

"There can be little doubt that the rapid progress of many trades abroad has been greatly facilitated by the superior technical knowledge of the directors of works everywhere, and by the comparatively advanced elementary instruction of the workers in some departments of industry; but, at the same time, it cannot justly be said that their superior education has led our neighbours to make any striking industrial improvements."

This is quite confirmatory of the views entertained by other authorities. Mr. HEWITT, the American ironmaster, whose report was noticed in last week's Journal, observed that the tools with which the French were working were close copies of English tools; and it is now being ascertained that the French locomotives, regarded as the closest copy of English engines, are unlike them only in respect of the inferior quality of portions of the workmanship—those which relate to the very important process of effectually securing joints. Mr. B. SAMUELSON says—

"In the production of iron and steel, if a step has been taken in advance of us as regards some peculiar though important products, this is due, except, perhaps, in the case of the steel castings of Bochum and Firmyn, less to the development of new discoveries than to a careful and intelligent improvement of processes, common to all, and to some priority in the utilisation of resources, at least, as readily within the reach of our manufacturers as those of any other country. Our Dr. PERCY's great work is translated into every continental language, and used as a text-book in the continental schools, whilst the improvements lately made abroad are engaging the serious attention of our metallurgists; and I have not the least doubt that the ground which we have lost will be speedily recovered, both by our ironmasters and our engineers, unless, indeed, a return of prosperity should lead to a renewal of the contentions between masters and workmen, which have caused such mischief to both. The cheap carriage of coal and iron on our railways is another important condition of the successful pursuit of our great manufacturers. Iron ores are carried in France at rates below 6d. per ton per mile; coal is sent from Westphalia to every part of France, Holland, and Germany at 6d., per ton per mile, including the use of wagons, and these rates are not unprofitable. Iron is delivered from Seraing, near Liege, into the port of London for 18s. per ton, or 2s. cheaper than from Wolverhampton. Railway managers are well aware, though under the temptation of immediate return they sometimes overlook the fact for a time, that nothing tends more to develop general traffic than a low tariff for raw materials."

The iron and coal masters of Great Britain are sensibly aware of the advantages which their continental rivals often possess in the matter of locomotion. Hence their efforts in the past year to secure a reduction in the railway charges. What has been done by the Ironmasters' Association of South Staffordshire was set forth in the report of the committee presented at the Birmingham meeting a few months ago, and thus recapitulated at the Preliminary Meeting:—

"No conclusion has yet been arrived at, or even recommendation made, as the result of the evidence taken before the Royal Commission on Railways, and the anomalies in the mileage charges for minerals and metals are still very great."

Mr. SAMUELSON's recommendations with reference to the course to be pursued to promote technical education in this country need not be reproduced here; they seem to be of a somewhat too extensive character to receive adoption at present.

**NITRO-GLYCERINE.**—In connection with the reference to this material in last week's Journal, Messrs. Webb and Co., the representatives of Mr. Nobel in this country, have forwarded a communication, which is published in another column, pointing out that if the requisite precautions are adopted the danger attending the use of nitro-glycerine is no greater than that of any other blasting agent, and that in quarries where it is habitually used the men prefer it to gunpowder. The letter is well worthy the perusal of all interested in blasting operations.

**CASTINGS.**—In the ten months ending Oct. 31 last year 68,129 tons of castings were exported from the United Kingdom, as compared with 67,813 tons in the corresponding period of 1866, and 72,853 tons in the corresponding period of 1865. The exports would have presented a decline last year but for the extended demand for British castings from British India and Australia. Thus the quantity sent to British India to Oct. 31 last year was 24,658 tons, as compared with 8343 tons in the corresponding period of 1866, and 10,281 tons in the corresponding period of 1865. To Australia the shipments to Oct. 31 last year were 11,076 tons, as compared with 5662 tons to the corresponding date of 1866, and 7073 tons to the corresponding date of 1865. In the ten years ending 1866 the quantity of castings exported from the United Kingdom was as follows:—1857, 72,835 tons; 1858, 78,192 tons; 1859, 81,302 tons; 1860, 74,971 tons; 1861, 75,055 tons; 1862, 66,553 tons; 1863, 83,551 tons; 1864, 58,877 tons; 1865, 91,322 tons; and 1866, 75,455 tons. The value of these exports was as annexed:—1857, 753,344.; 1858, 822,979.; 1859, 795,819.; 1860, 832,638.; 1861, 702,824.; 1862, 574,142.; 1863, 740,310.; 1864, 670,111.; 1865, 792,581.; and 1866, 700,222.

**CONSTRUCTION OF MINE SHAFTS.**—Mr. H. T. RICHARDSON, of Aber Hirnant, Bala, North Wales, proposes a "tubular shaft-casing and life-stair for mines &c.," which consists of two galvanised iron tubes, placed concentrically in a shaft, with a flight of stairs between them; the inner tube is to be used as the "trading" shaft. The inventor remarks that it must be understood that improvements could be made, and double stairs formed by increasing the gradient of them, and entrances could be left to meet the requirements of galleries; great ventilation could be given to the mine, and a free way of escape would always be open to the miners in case of accident. The diameter of the tubes, &c., would have to be regulated by the size of the shaft. The tubes are to be built in lengths of 25 feet, one resting on the other—the lower section having been placed in position, the upper ones follow in succession until the top of the shaft is reached: the extra strength of the lower sections would be regulated by the depth of the mine. The casing would strengthen the sides of the pit shaft and prevent any falls or giving way of the sides. The outer tube should be made stronger than the inner one.

**OLD PIT SHAFTS.**—The question of properly protecting old pit shafts is one in which, looked at merely in a pecuniary point of view, colliery proprietors and managers are largely interested. Heavy fines are frequently imposed in South Staffordshire when unused pits are found insecurely fenced. During the last six years penalties have been imposed amounting to about 548£, and the amount annually imposed in Mr. Baker's district equals one-half of the penalties in all the other districts put together. This is chiefly due to the greater number of pits in South Staffordshire. Mr. Baker's district contains 544 collieries, many of which are not, however, in operation; and within the boundaries of these collieries there are "thousands of pit shafts of various depths, varying from a pair of shafts to 70 in a colliery." The question of the most secure method of fencing a pit shaft involves serious pecuniary considerations. The Stipendiary for South Staffordshire inflicts heavy fines for offences of this class, even for absence of complete fencing. The difficulty of keeping old shafts free from danger will continue as long as the method adopted is of so incomplete a character. In one recent case timber only had been fastened horizontally to uprights; and in two others there were only palings. In a few instances it is necessary for ventilation to keep open old shafts, but usually they should be closed. When kept open timber should never be used,

but they should be bricked sufficiently high to place the top beyond the reach of the pilferer. When the shafts can be closed, the most effectual method is to cover them with plates of cast-iron.

#### MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,  
Patent Agent and Adviser, Mem. Soc. Arts, Assoc. Soc. Eng.

Recent specifications comprise one filed by Mr. CHAS. SANDERSON, of Worksop, Nottinghamshire, steel manufacturer, for the manufacture or melting of cast-steel. The steel is first brought to a soft or curdy state, by means of heat obtained from combustible gases obtained from the blast-furnace. In this heating no solid fuel is used; the crucible and its contents are heated by the combustion of gas with air. The gas obtained is conducted into a chamber along with heated atmospheric air, the combustion of which produces considerable heat. Into this chamber a number of crucibles—say from 20 to 40—are introduced, and when they are sufficiently heated, they are charged with iron or steel, and subjected to the heat of this furnace until the steel becomes red-hot, or, if required, a thick pasty mass. The crucibles are then withdrawn from the furnace, and placed in small furnaces constructed and arranged to give out a heat sufficient to completely melt the steel in the crucibles. Two or more crucibles may be placed in one of these second furnaces, which is heated with coke, or coke combined with a heated current of gas, drawn from the generator; heated atmospheric air is also employed in combination with the other fuel.

Mr. THOMAS GREENWOOD, of Leeds, machine-maker, has specified some improvements relating to boring metals in the solid. The patentee remarks that great delay has been occasioned in clearing out the chips formed by the drill in boring into or through solid metal, and defective drilling has often resulted from the accumulation of the borings. In order to avoid these inconveniences, and to ensure perfect lubrication of the drills, the patentee has contrived an arrangement of drilling machinery, wherein the work to be drilled is mounted vertically above a tank containing lubricating material, and bored upwards from its lower end by fixed drills mounted in the tank. The tank he proposes to charge with water or other lubricant, keeping the level of the same above the cutting edge of the drills, and the work will, therefore, be lowered down into the lubricant as the operation proceeds. When boring gun-barrels or other light work, three or more slides or carriers for receiving the work may be conveniently arranged around the central standard. The carriers, being capable of sliding in the vertical guides, will descend as the boring proceeds, or a self-acting motion may be applied to regulate the descent of the carriers when the machine is adapted for heavy work. Rotary motion being given to the central elongated pinion, the pinions around and gearing into it will be driven, and thus rotate the work suspended below their respective spindles. As, therefore, the work is fed to the drills, the steady boring of the barrel will be ensured.

Mr. CHARLES JONES, of the firm of John Jones and Sons, of Williamson-street Ironworks, Liverpool, has patented an invention relating to coal mining machinery. First, he proposes to form the rails with teeth, like a toothed rack, and construct the whole or a portion of the width of the bearing-wheels or other wheels connected with the machine with teeth, to gear into those on the rails, and thereby prevent the machine from moving backward and forward when at work. Secondly, he arranges coal mining machines to run on rails constructed according to the above first part of the invention. For this purpose he employs a ratchet wheel or wheels, and pallet or pallets, on the axle of the carrying-wheels or other part, and he operates these by a reciprocating lever, or other mechanism connected with any convenient working part of the machine. Thirdly, he employs with the rails constructed according to the above first part of his invention double or single acting screw or other jacks, as means for jamming the rails between the floor and roof of the mine. Fourthly, he specifies means for carrying, holding down, and keeping up to their work, coal mining machines generally. One or more steel or other tubes, rails, or bars, raised from the ground by framework, support them at their ends. The said tubes, rails, or bars pass through the framework or other part of the machine, and the machine is made to travel thereon automatically or otherwise. Fifthly, he arranges arms or levers and cutters to plane or pare away the coal or other mineral, so as to form deep channels or grooves therein. The arms or levers are joined on or to framework, which projects laterally from the machine, and they are operated on by reciprocating motion from the engine, the connection being made to the said arms or levels between their free cutting ends and the joints, or at the back of the said joints. The arms or levers are connected by links, and the cutters act both in the outward and return stroke, cutting the face of the channel or groove in radii corresponding with the sweep from the said joints.

#### FOREIGN MINING AND METALLURGY.

It results from a report issued by the Mons Chamber of Commerce that the coal production of Belgium, which was 9,935,500 tons in 1862, rose in 1863 to 12,774,000 tons, divided as follows over each province:

Province.	1862.	1863.
Hainaut .....	Tons 7,795,000 .....	Tons 9,851,000 .....
Namur .....	246,500 .....	359,000 .....
Liege .....	1,894,000 .....	2,564,000 .....
Total .....	9,935,500 .....	12,774,000 .....

In 1862 the exports amounted to only 3,487,000 tons, and the interior consumption to 6,529,000 tons, of which 80,000 tons were imported. In 1863 the exports amounted to 4,762,000 tons, and the interior consumption to 7,842,000 tons, of which 187,000 tons were imported. Thus, in five years the coal production of Belgium was increased to the extent of 2,838,500 tons, while the exports expanded to the extent of 1,275,000 tons, and the interior consumption to the extent of 1,813,000 tons. The wages of the men employed in coal mining industry in the basin of the Hainaut, represented in 1866 an outlay of 1,966,680£, or about £s. 2d. per ton of coal produced, while in 1866 the expenditure was 2,496,440£, or about 4s. 8d. per ton. The expenditure in wages, which presented an increase of 329,560£ in 1866, as compared with 1862, thus showed an augmentation, having reference to the growth of the production. The report of the Mons Chamber observes

drooping prices, which closed rather feebly at the last dates at 51½ fls. to 53 fls. in Bilston, quoted at 52½ fls., no important transaction has been recorded. The tin market has shown little animation, and prices have been feeble at Paris; Banca has made 95L to 96L, and Straits and English 94L per ton. Under the influence of advices received from England and Holland, the German markets have displayed a less firm tendency; the article remains quoted nominally at previous rates. The lead markets remain inactive; the demand is generally very limited, and prices remain without change. There has not been much doing in zinc of late at Hamburg. A Breslau letter says:—"Our market is without activity, and we can scarcely expect a serious revival in affairs before some weeks; opinion remains, nevertheless, favourable to the article, and if, notwithstanding the depreciation which it experiences on other markets, our producers show themselves little inclined to abate their pretensions, this arises—first, from the fact that existing stocks are inconsiderable; and, secondly, because the consumption of this metal is becoming more important every day. Transactions are moderate at Paris; rough Silesian is quoted at 22L, and zinc from other sources 21L 4s. per ton.

As regards miscellaneous topics, we may add that we observe that tenders are being invited for the establishment of gas-works at Bucharest. The Madrid Gas-Works Company has announced the payment of a dividend of 15s. per share. Great activity is being displayed in Russia, Austria, and Hungary in the prosecution of new railways. The same may also be said of Prussia—in fact, the Prussian Government is now credited with an intention to introduce a loan of 5,700,000L, to be specially applied to the work of railway development. The Russians have just now got so many railways on hand that it has been sarcastically remarked that they are railway mad. Whether this is the case or no, one thing appears conclusively established—that with a continuance of peace there appears likely to be a large demand for railway iron this year on the continent of Europe.

#### REPORT FROM SCOTLAND.

JAN. 1.—Pig-Iron has met with a good sale since last week, at about 6d. advance, partly on account of the arrangements made by ironmasters to continue to limit their production, and partly, also, on account of stocks in the hands of dealers being short, and necessitating purchases. As to-day is a holiday, we quote yesterday's prices for warrants at 52s. 4d. cash, and 52s. 6d. a month, sellers; buyers, 52s. 3d. cash, and 52s. 4d. a month, with rather a tendency to accept buyers' terms. The exports for the week closing yesterday were 8375 tons, against 8620 tons for the closing week of last year, which now reduces the increase of shipments to Dec. 31, as near as may be, to 7000 tons. Makers' iron is—Gartsherrie, No. 1, 60s.; Coltness, 59s.; Calder, 58s.; Carron, 57s. 6d.; Glengarnock, 57s.; Eglinton, 54s.; all the other Scotch brands, from 55s. 6d. to 53s. for No. 1; No. 3, from 53s. 6d. to 51s. 9d. Manufactured Iron is expected, after the holidays are over, not only to be very brisk, but prices are considered as almost certain to advance; and at the present time some one or two firms are behind in their delivery, and refuse further orders unless at an advance of 5s. on plates, and of from 2s. 6d. to 5s. on angle iron; and in some instances these advanced prices have been agreed to. This is very cheering for the commencement of the year, and hopes are—though looming in the distance—fondly entertained that this year's iron trade will be more remunerative than the past. Ironfoundering is not yet much improved, but the prospect of a plentiful supply of work for the coming spring and summer is becoming pretty certain. The possibility of the moulders having the differences with their employers settled by arbitration is becoming daily less likely to be realised. The chief point of dispute is about the number of apprentices, the Union only "allowing one for every three moulders," while the masters object to any restriction. It will be a pity if the men will not be content to keep their own places, and allow the masters a like privilege.

Coals keep quiet, and are dull of sale, the little business done being divided between coal and ironmasters, both having the article to sell, only the latter has the advantage of getting their hewing done at a cheaper rate per day. The exports show only an aggregate of shipments, foreign and coastwise, of 19,035 tons, against 22,020 tons in the corresponding week of 1866. In the Motherwell district, the colliers are reported to have got the advance of 6d. per day conceded them, bringing up their wages to the maximum of 5s. per day of eight hours. The prices thus range from 4s. to 5s. a day for the short darg.

Shipbuilding, which has been so much depressed during the last year, is likely to be very brisk during this year; and as a very hopeful sign of its coming prosperity, it may be noticed that there is now an amount of tonnage in course of construction equal to the whole amount launched in 1867, and there are orders on the books not included in this estimate. Of the launches since my last is a small steamer, named Rob Roy, of 340 tons, for the Australian coasting trade; she is beautifully fitted up with saloon and other passenger accommodation.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

JAN. 2.—Since last report no improvement has taken place in the Iron Trade of the district, but, if anything, business is somewhat duller, and this is proved from the fact of the hands being reduced at some of the establishments. At present the future prospect is in no way encouraging, still it would be unreasonable to suppose that the depression which has existed for so long a period will continue much longer. The time must come when activity will again reign at the various works, and it is to be hoped that with the New Year an improvement will be inaugurated, and that many years will elapse before anything approaching the present dullness will again be witnessed in this or any other iron-making district in the kingdom. Some large Russian contracts will shortly be in the market, and there is every probability of a fair share falling into the hands of the makers in this district, as Russia for some time has been one of their best customers. There is no alteration to note in continental enquiries. Large orders are expected from America, the number of miles of railway requiring relaying in that country being something enormous, and the news conveying the loss of 50 lives of railway passengers attributes the accident to the defective state of the permanent way, and this may cause a speedier giving out of orders for that country. The home railway companies are still backward in entering into transactions. The Great Western and also the North British are in the market, but not for any very large quantities, and it is well known that the want of public confidence in railway securities has considerably augmented the existing depression. Some weeks ago the Northern Ironmasters gave notice of reduction of 10 per cent. in the men's wages, and the example was followed by some of the leading makers in this district, and on Saturday last the notices expired. Previous to the expiration of the notices, it transpired that the men would offer no opposition to the proposed reduction, and on Tuesday morning they commenced work as usual, although great dissatisfaction has been expressed, in consequence of the determination come to at the preliminary meeting of the South Staffordshire Ironmasters' Association not to reduce wages. It was generally believed that no reduction would be made in the price of Staffordshire iron, but a strong opinion prevailed that wages would be reduced 10 per cent., and as this has not been done, there is no doubt but that some dissatisfaction will continue to exist in the minds of the workmen of this district for a little time to come. Pigs are not selling so freely as they were a month ago, but this branch, like all others, is dull at this season of the year.

For tin-plates enquiries have not increased since last report, but slackness generally prevails at the close of the quarter. Steam coal proprietors are tolerably well off for orders, and the colliers, as a rule, are fairly employed. The demand for the East has somewhat slackened, but this is owing to the belief that the Abyssinian expedition will be brought to a sudden termination by the liberation of the captives. Should the war be carried on the demand will greatly increase, as the stocks at the mail-packet stations are exceedingly low. France continues a good customer, and enquiries from some of the Mediterranean ports have lately increased. For house qualities the demand is below the average, and the shipments coastwise are not equal to the corresponding period of last year. When the notice of a reduction of wages at the ironworks in this district was given it was generally felt that a corresponding reduction would take place at the collieries, and in consequence of the low price obtained for steam and house coal, the coalminers have determined on carrying out a reduction, and notices to that effect have been given at all the collieries. In some parts of the district the reduction will be 15 per cent., and in others 10 per cent. The announcement has caused some astonishment among the colliers, but it is believed no opposition will be offered on their part.

Mr. D. Williams, who has been in the employ of Mr. T. Powell, of Llanwit, for the past 10 years, has been appointed manager to the Llanwit Main Colliery Company. As soon as Mr. Williams resigned his old situation, the colliers in the employ of Mr. Powell set a subscription on foot, and on Friday

last they presented Mr. Williams with a purse containing 15L, as a token of respect for his upright service between master and workman ever since he had been among them.

A new tin-works is to be erected at Aberdare by a limited liability company; and as the manufacture of tin-plates has become one of the staple trades of South Wales, there is a fair probability of the undertaking proving successful.

The arrivals at Swansea include—the Clara, from Tilt Cove, with 330 tons of copper ore, for H. Bath and Sons; Gloria de Portugal, from Aveiro, with 96 tons of copper ore, 45 tons of lead ore, and 10 tons of blende, to order Commodore, fr. Madeira, with 100 tons of zinc ore, for Dilwyn and Co.; Antao Vizente, from Hendekip, with 675 tons of copper ore, for Richardson and Co.; Faith, from Setaria, with 270 tons of copper ore, for H. Bath and Son; Mana, from Carilofo, with 235 tons of zinc ore, for H. Bath and Son; Daedalus, from Quebec, with a cargo of zinc, for Elford, Williams, and Co.; Alexandra Clemens, from Carlisle, with 235 tons of zinc ore, for H. Bath and Son; Mary, from Cherbourg, with 115 tons of iron ore, for R. Crawshay; Faithful, from Rouen, with 28 tons of zincore, for Elford, Williams, and Co.; Egmont Esther, from Santander, with 186 tons of zinc ore, for the Swansea Zinc Ore Company; and the Queen, from Dieppe, with 100 tons of flint stones, to order.

**REDUCTION OF COLLIER'S WAGES.**—Notice of a reduction in wages has been given at all the collieries of Monmouthshire and Glamorganshire—a step which has taken some by surprise, while others consider that the position of the trade, more especially the house coal branch, is such that it is a matter of surprise that wages have not been reduced a long time since. During the whole of the year 1867 the prices obtained for house coal have been comparatively low, and the shipments coastwise even show a slight falling off, which is a certain indication of dulness. Up to about three months ago the steam coal trade was equally depressed, the demand not being equal to the supply, and few of the pits were on full time. The war with Abyssinia brought about a favourable change, and for a few weeks business became undoubtedly brisk; this activity, however, did not last long, although there is still a fair demand. In consequence of the means of supply being so much in excess of last year, the increased consumption has scarcely affected prices, and in so far as profitable results are concerned there is little difference between the position of either steam or house coal proprietors. It is not yet quite settled what the reduction will be; in some places it will probably reach 15 per cent., and the average will be at least 10 per cent.

**TIN PLATE TRADE.**—The quarterly meeting of the members of the trade was held at the Bell Hotel, Gloucester, on Wednesday, Mr. Woodruffe, of the Machen Works, Monmouthshire, in the chair. There was a fair attendance, taking into consideration that it was the first meeting of the year, which is always rather thinly attended. Among the buyers present were Von Dadelen and North, London; French and Smith, London; and Nash and Co., Liverpool. From the discussion which took place, it appears that the demand had somewhat fallen off of late, which is usually the case about the close of a year, and hence it was not wholly unexpected. This falling off is more particularly perceptible as regards American requirements. Advice from the States show the stocks are not heavy there, and, consequently, there is no reason to think that the demand will continue to fall; at present, on the contrary, there is every probability of an improvement taking place as the year advances. From the other foreign markets there is no material change to note in the demand. Our home account there is an average business doing, and, as is the case abroad, stocks are comparatively light. It was unanimously resolved that no change should be made in prices, and consequently, that remain the same as for the last quarter. The Factory Act has not yet been put into operation at the tin-plate works, and, contrary to what was at first expected, its provisions are far more distasteful to the men than to the employer. When its provisions are applied after the meeting the members, as usual, dined together.

**FOREST OF DEAN.**—The Forest ironmasters, while fairly placed just now for orders, have still great reason to complain of bad times. The lowness of the price of iron is rather too practically felt to be either reliable or agreeable, although Christmas time, when folks can, perhaps, put up with almost anything. There is one satisfaction—the ironworks are kept going, and hitherto the furnacemen have not been called upon to submit to any reduction of wages, which is saying a great deal for the masters of the district. There is every prospect that before the year just entered upon shall be, like the one now closed, among the past, an extension of ironmaking will become a fact; it is now in embryo, and, what will be of equal significance, a good supply of mine, without doubt, will be ensured. It is, however, a matter of regret, remembering the local advantages of the district, that an extension of manufactured iron is not at the present probable, or publicly contemplated. The Forest of Dean masters are expecting an advance in the price of iron; but, so long as Fenianism exists at home, and disorder manifests itself abroad, it is a question of great uncertainty, and causes much anxiety with respect to any immediate improvement taking place. The tin-plate branch is doing a good stroke of business, and the whole of the district mills are kept fully employed. The price, however, is some few shillings per box less than previous rates, which reduction is necessarily accepted. In the household coal branch there is increasing activity, and while other district coals have been recently reduced in price, the Forest maintains its late advance. "Christmas holiday" was generally carried out, very little work being done during the week. Taking the year 1867 as a whole, a better year for the Forest of Dean was, perhaps, never experienced. From January to December that is hardly a branch in the district that has reason to complain of inadequate employment, but, on the contrary, would stand in pleasing contrast with preceding ones. There are four gentlemen now in the field seeking the vacant coronership; all are residents of the district.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

JAN. 2.—By an unfortunate miscarriage, that part of this letter which stated that the Ironmasters' Association of South Staffordshire had determined to make no change in prices or wages did not reach in time for insertion in the *Mining Journal* last week. The decision was in accordance with the recommendation of the leading makers, who form the committee of the trade, and furnish the rota of chairmen, but was only arrived at after considerable discussion. It is by no means universally approved, but it is hard to say, under all the anomalies which the trade presents at the present moment, which course presents the fewest evils. The smaller makers, who must accept the market price, find it hard to pay the present wages, and to buy pig-iron with very little abatement from the prices when trade was better than now.

The North Staffordshire Coal and Ironmasters held their Quarterly Meeting to-day, at the Railway Hotel, Stoke-upon-Trent (Mr. Wragge, agent to Earl Granville, in the chair). The general report was that the trade is much depressed. The following important resolutions were adopted unanimously:—

"That in consequence of the present low selling price of iron, and the great difference in wages, as paid in North Staffordshire and in other competing districts, it is absolutely necessary either to stop the works for the present, or to rearrange wages on a fair basis; and that, therefore, notices be given on Saturday, January 4, at all the works in North Staffordshire, as follows:—Notice is hereby given that all contracts at these works cease and determine at the expiration of 14 days from this date."

"That the work done by colliers and ironstone miners in this district is very generally paid for by contract, and having from various causes risen to a much higher rate than is warranted by the existing field wage, it is necessary to revise the charter and bargain prices, with a view to their adjustment on the basis of the field wage."

It will be seen from these resolutions that the North Staffordshire ironmasters are no longer content merely to follow the lead of the South Staffordshire Association, whose decision last week to make no change has caused a good deal of dissatisfaction. As there are only a few great masters in the north of the county, they can far more readily act together than even the number of masters, many on a very small scale, in the south of the county.

The failure of Messrs. Ketley and Co., of the Russell Hall Furnace, near Dudley, is announced this week.

The inquest on nine of the twelve men who were killed by the dreadful explosion at the Homer Hill Colliery, near Cradley, on Nov. 11, was resumed by the Worcestershire coroner. On Wednesday, Mr. J. P. Baker, the Government Inspector of Mines, was present, and the workmen were represented by Mr. Breathwell and Mr. Tetlow, of the Miners' National Association. Only two witnesses were called, except the mining surveyor, who produced the plans of the workings. As far as the evidence went, it confirmed the account given in the *Mining Journal*, that the explosion was caused by a great fall of "shut," which emitted a large amount of gas. It appeared, from questions asked by Mr. Baker, that this part of the workings could not be examined to the extremity. The inquest was further adjourned.

The subject of Technical Education has excited considerable attention during the week. The Birmingham Chamber of Commerce have appointed three gentlemen to attend the conference convened by the Society of Arts on the subject. The same chamber has received a communication from the Government, asking for information on the question, as far as it affects Birmingham, and a special meeting to consider the communication on Monday next. At a soiree of the Wiles Hall Institution, on Monday evening, the members for the borough of Wolverhampton, which includes the former and several other towns, were present, and the Right Hon. C. P. Villiers delivered an interesting speech on the subject of education, taking a very clear and comprehensive view of its present position, and urging upon the promoters of such institutions as that the great value which would attach to a regular systematic instruction in evening classes, bearing upon the employments which the working artisans pursued.

The Wolverhampton Chamber of Commerce has declined to constitute itself part of a Board of Conciliation to represent the employers, to which they were invited by the Trades Council representing the working men of the town. At a meeting of the Chamber, on Tuesday, Mr. J. Moreton presiding, the sub-committee appointed to meet a deputation of the Trades Council reported that the meeting had been held, and after careful consideration of the facts and the reasons brought forward by the deputation, the following resolution had been passed:—Resolved: "That the sub-committee

having heard the views of the deputation from the Trades Council (which were still more fully explained in a written statement), do recommend the Chamber to accede to a proposition for a mixed committee, which may consider such questions of general interest as may present themselves, and may act as a Court of Conciliation in such cases of dispute of a local character as may be referred to it by both parties." The report of the committee was discussed at considerable length, and it was ultimately resolved, on the proposition of Mr. R. Lee, seconded by Mr. J. Moreton,—"That, although it is the opinion of this Council that measures of conciliation are the only desirable means of settling trade disputes, they do not feel that the Chamber is constituted for the settlement of such questions in the manner proposed."

The Factories Acts and the Workshops Regulation Acts are now in operation, legally; but, in fact, people are just beginning to perceive the nature of these measures. The enforcement of these Acts in small workshops will involve considerable difficulty. How, for instance, who put up shutters and run errands are to go home at 6 or 7 o'clock if over 13, or go to school half the day if under, is a puzzling question, and the carrying out of the law at every milliners and dressmakers is a result which seems hard to realize. It is probable it will take some time, and no few penalties, to enforce these statutes. At first, probably, all children under the age when they become young persons—which is now 11, will be 12 next July, and 13 from July, 1870—will be dismissed, rather than the trouble be taken to adopt the half-time system, which will be, in many cases, a hardship.

Mr. H. Johnson has been writing to the papers respecting the recent convictions for having disused pit shafts unfenced, specially complaining that a mine agent has been convicted when the neglect was that of a subordinate. His letter raises several points, as—Should mine agents be liable for such neglect? How should these pits be fenced? and that the stipendiary magistrate of the Wolverhampton district and the Government Inspector of Mines for South Staffordshire and Worcestershire should be removed by Parliament. "A Mine Agent," in a letter to a Birmingham paper upon the one point of how to fence these shafts, Mr. Johnson suggested iron-plates. The other writer says—"I think that these old pits can be made safe at a far less cost by bricking them up from 5 to 6 ft. high, with 9-in. brick and mortar, with a heading course edgewise on the top. This plan I have adopted for some time, and have found it answer much better than arching them over; for, as Mr. Johnson says, the mischievous young urchins are often found hammering holes through for the purpose of satisfying their curiosity as to what is inside, &c.; and when there are a few bricks out it is a very easy matter to loosen more, so as to make a larger hole; and smaller children are apt to climb up the sloping side of the brickwork to peep down or to play at little pits by lowering string down, as I have known them do, thereby risking the danger of pitching in head first through the hole, or by their weight causing the bricks to give way under them, thus precipitating them to the bottom wholesale. If the pits are surrounded with timber this is almost sure to be either stolen for some purpose, or pulled off and thrown down the pit; perhaps it may be for spite, as Mr. Johnson suggests, by some of the subordinate officers." But, in the plan I have suggested, if the bricks are well laid in good mortar they will have to be hammered a long time before they can be made very dangerous. I remember, some time ago, being in conversation with the present Inspector of Mines upon the subject, and he approved of the plan I suggest. To do them in this way will cost about 12, 12s. each pit, while your correspondent's plan, with plates, will cost from 4s. to 4s. 10s. each. The difference in price is very considerable, and will allow of their being looked over occasionally. Besides, in a colliery where there are so many of these old pits, some of them are often used for the purpose of ventilation for others at work, which could not be covered over with plates and dirt." This suggestion therefore, seems to be a very sensible and practical one. The correspondence brings out one point very clearly. If these old shafts are so exposed to visits from children, who break down the fences, they surely ought to be made secure. Whether owner or mine agent should be responsible is open to discussion. That the law cannot descend lower to place the blame must be pretty clear to most who know how difficult it is for courts of justice to deal with subordinates for neglect of duty.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

JAN. 2.—The week has been a very quiet one at the principal iron and coal districts in nearly all parts of the country, and Derbyshire is by no means an exception to what may be looked upon as a rule. The Iron Trade, as might be expected, has not at all improved in the last week of the year; still most of the furnaces are in blast, whilst several of the foundries, especially those at Staveley, are tolerably well off. At the last-named place business generally during the year has been well kept up, so that the men have been placed in a much better position than those at almost any other establishment of the same proportions. There has not been a great deal doing at the lead mines for some time past, but, as the Midland has given increased facilities of transit by the opening of the new line from Derby to Wirksworth, a better state of things is anticipated during the present year. In Coal there is a full average business for the season, and the Derbyshire colliers have no reason to complain of the business doing for several months past. The men in the Burton-on-Trent district are still out, and, judging from appearances, are likely to remain so. A great deal of misery and want is to be found in Swadlincote, Church Gresley, and their neighbourhoods, and during the Christmas week Mr. Bass, M.P., gave away three oxen, and the Miners' Association of South Yorkshire 400 tons of coal. Despite those gifts, which fill up a very small gap in the amount of misery prevailing, it is expected that a number of the men will return to work, whilst the collieries will be still further provided with hands from a distance. As usual, business has been very quiet in holiday-loving Sheffield, and very little has been done during the week. In several branches, however, including the heavy armour-plate trade, the prospects are more encouraging than they have been.

The reduction of 10 per cent. at the various ironworks in the district has so far met with considerable opposition, and a strike is likely to be the result; indeed, such may now be said to be the case at Parkgate, the largest establishment in South Yorkshire, so far as puddling furnaces and rolling-mills are concerned. It is questionable, however, whether they will remain out long, as a number of the men are strongly opposed to striking just now, when trade generally is dull. At Milton and Elsecar the decision of the men has not been made known to the Messrs. Dawes; but, to show that the firm are quite determined to enforce the reduction or to close the works, it may be stated that Mr. G. Dawes informed the men that they could have an extra week's holiday; and the works, with the exception of the furnaces, are now standing.

The Coal Trade has rather improved during the week, and the severe weather of the last few days has caused considerable briskness in household qualities for the London and other markets. Not only by rail, but by water has the improvement been felt, and during the last few days several cargoes have been forwarded to Goole for shipment to London, Wisbech, Yarmouth, and Shoreham. To Grimsby, also, there has been an increase in the tonnage forwarded there, owing to the arrival of a good many vessels which have been weather-bound. The result has been that the accumulated stocks of steam and house coal have disappeared, and the new year at most of the collieries will be commenced with clear pit-heads. The business doing for Lancashire is quiet, the cotton and other factors being far from busy.

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**CHONTALES.**—WILL THESE GOLD MINES PROVE A SUCCESS? ANDREW'S "MINING ARGUS AND STOCK EXCHANGE CIRCULAR" of this day, Saturday, January the 4th, 1868, contains Original Articles on the Origin, Rise, and Financial Prospects of the CHONTALES GOLD AND SILVER MINING COMPANY (LIMITED).—A reply to the letter of "A Fellow of the Royal Geographical Society" on the climate of Nicaragua.—The retirement of Capt. Plim from the Directorship of the Chontales Company.—The astounding statements of Dr. Berthold Seemann and Capt. J. Holman, at the Meeting of the Central American Association, where they stated that the "whole of the Chontales Mines must sooner or later be offered for a mere trifle to the proprietors of the Javall."—The financial prospects of Chontales—Railway Traffics and Prospects—Quartz Rock Mariposa Gold Mine—Pestarena-Napoleon's Escape from Elba, and its effect on the price of Consols—The Electric Telegraph and the Post Office, &c., &c.

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**THE GOLD MINES OF NOVA SCOTIA.**—Mr. HEATHERINGTON, whose Statistical Reviews of the Gold Mines have been adopted by the Provincial Government and the Paris Exhibition Committee, and were favourably noticed by the London Mining Journal, is PREPARED TO SECURE, VISIT, and REPORT upon MINING PROPERTIES in NOVA SCOTIA for investors who reside abroad.

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**GOLD MINING IN NOVA SCOTIA.**—CAPTAIN J. ROBERTS, who has been VISITING the MINES of NOVA SCOTIA the last two months, has come to the conclusion that, with judicious management, Nova Scotia Gold Mines can be made to pay handsome dividends—by the erection of machinery and good discipline, like he was accustomed to in Gongo Soco and St. John del Rio, but Captain Roberts deeply regrets to find that some of his countrymen who came out here got in such disrepute by their reckless mismanagement of the Nova Scotia Gold and Land Company's property, as to leave very little confidence in their ability as mining men, and which, it is well known, they cannot do without. Capt. Roberts has seen more visible gold in the veins here than in any country he has been into.

Mansion House, Halifax, Dec. 4, 1867.

**SIX POUNDS PER WEEK**  
While laid up by injury, and  
ONE THOUSAND POUNDS IN CASE OF DEATH CAUSED BY ACCIDENT  
OF ANY KIND.

May be secured by an annual payment of from £3 to £5 5s.

TO THE  
RAILWAY PASSENGERS' ASSURANCE COMPANY.

May also be provided against by insurance ticket for single or double journeys.

For particulars apply to the Clerks at the Railway Stations, to the Local Agents, or at the

OFFICES,—64, CORNHILL, and 10, REGENT STREET, LONDON.

W. J. VIAN, Sec.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Devon.

**I**N the MATTER of the COMPANIES ACT, 1862, and of the MOLLAND MINING COMPANY.—Notice is hereby given that a PETITION for the WINDING-UP of the ABOVE-NAMED COMPANY by the Court was, on the 30th day of December last, presented to the Vice-Warden of the Stannaries by William Bradley, of Sheffield, in the county of York, a contributor of the said company, and that the said petition is directed to be heard before the Vice-Warden, at No. 15, Thurloe-square, Brompton, in the county of Middlesex, on Tuesday, the 14th day of January instant, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, his solicitor, or agent, of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioner, his solicitor, or agent, within 24 hours after requiring the same on payment of the regulated charge per folio.

Affidavit intended to be read at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before Friday, the 10th day of January instant, and notice thereof must at the same time be given to the petitioner, his solicitor, or agent.

WILLIAM UNWIN, of Sheffield  
(Solicitor for the Petitioner);  
JOHN GILBERT CHILCOTT, of Truro  
(Agent of the said Solicitor).

Dated Truro, Jan. 1, 1868.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**I**N the MATTER of the COMPANIES ACT, 1862, and of the GOONZION MINING COMPANY.—By the direction of His Honor, the Vice-Warden, notice is hereby given that, on the 14th day of January next, at the Registrar's Office at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will PROCEED to MAKE A CALL of SIXTEEN SHILLINGS AND EIGHT PENCE PER SHARE on all the contributors of the said company settled on the List of Contributors under Class A.

All persons interested therein are entitled to attend at the time and place of offer objections to such call.

W. MICHELL, Registrar.

Dated Registrar's Office, Truro, Dec. 31, 1867.

Commercial Sale.

**O**N TUESDAY, JANUARY 14, 1868, at half-past Two o'clock prompt, at the Brokers' office, PIG IRON (North of England). For further particulars and conditions of sale, apply to—

H. J. WALDUCK AND CO., METAL BROKERS,  
1, Market-street, Manchester.

TON MAWR COLLIERIES.

LEASEHOLD LANDS and MINES, in the Parish of BAGLAN,

in the County of GLAMORGAN.

**M**R. JOHN M. LEEDER has been favoured with instructions from the Mortgagors TO SELL, BY PUBLIC AUCTION, at the Castle Hotel, Neath, on Thursday, the 16th day of January, 1868, subject to such conditions as shall then and there be produced, all those VALUABLE LEASE-HOLD COLLIERIES called the

TON MAWR COLLIERIES.

Situate near NEATH, in the county of GLAMORGAN, comprising all the VEINS of COAL, IRON ORE, IRONSTONE, FIRE CLAY, AND OTHER MINERALS lying under the following farms, viz.:—Abergwenfryd, Blaenafon, Brynneithwyn, Ton Mawr, and Waunlwyd (excepting the stone and stone quarry under Craigddin Plantation, part of the farm of Abergwenfryd), together with SEVEN COTTAGES and TWO LIME KILNS near the same, on the last-mentioned farm.

The COTTAGES and MINERALS under the farms of Abergwenfryd, Blaenafon, and Brynneithwyn, are held by lease for the residue of a term of 99 years, commencing on the 24th of June, 1861, at the annual rent of £42 8s. for the cottages, and for the mines and minerals a sleeping rent of £400, redeemable at royalwds for coal; 6d. per ton for ironstone; and 3d. per ton for stone and other minerals; and for the residue of the said term 6d. per ton for 2520 lbs. royalwds for coal; 6d. per ton for ironstone; and 3d. per ton for stone and other minerals; and for the residue of the said term 6d. per ton for coal; 9d. per ton for ironstone; and 4d. per ton for stone and other minerals, with an average clause of three years. There is also a surface rent of £5 per acre per annum for land for lands that may be taken.

The whole area of these farms, after deducting the Craigddin Plantation, is 436 A. 2 R. 16 P., more or less, the lease gives power to the lessee to determine the term at the end of the third or any subsequent year.

The MINES and MINERALS under the farms of Ton Mawr and Waunlwyd Farms are held by lease for the residue of a term of 99 years, commencing on the 29th September, 1861, at the annual sieving rent of £100, redeemable by royalties of 3d. per ton for 2520 lbs. on coal, culm, iron ore, and ironstone, excepting on coal or culm used by the lessee or his agents for domestic purposes, or for working any engines, &c.; and 1d. per like ton of fire-clay converted into bricks for sale, with one year's average clause, and a surface rent of £2 per acre per annum for all lands that may be taken.

The lease gives power to the lessee to determine the lease at any time on giving 12 calendar months' notice in writing of his intention so to do.

The TON MAWR COLLIERIES have been well and extensively opened and worked by a level merely, and thus drain themselves without requiring pumps, hoisting apparatus, or machinery of any description. They have been proved to the extent of two miles ahead, so as to demonstrate that the coal is free from faults, and they are thoroughly ventilated and perfectly free from fire-damp.

The quality of the coal has been long established at the large works in the locality, as well as in the mining districts of Devon and Cornwall.

The estate is intersected by the South Wales Mineral Railway, by which the coal from the several levels upon the property is conveyed to the docks at Briton Ferry, and to the large tin-plate, iron, and other works established there and in the neighbourhood of Neath, and it is connected with the main line of the South Wales Mineral Railway by a branch railway nearly a mile long, which has been constructed in a superior manner, and is included in the purchase.

Sale to take place at Three o'clock in the afternoon.

For further particulars, apply to Messrs. EADY and CHAMPION, Solitaires, 18, Park-street, Westminster, London; HOWELL CUTHERSTON, Esq., Sollicitor, Neath; or to the Auctioneer, at his offices, 16, Caer-street, Swansea.

GLAMORGANSHIRE.

VALUABLE COLLIERIES FOR SALE, NEAR NEATH.

**M**R. W. C. MORRIS has received instructions to SELL, BY AUCTION, at the Castle Hotel, Neath, on Wednesday, January 22, 1868, at Four o'clock in the afternoon (subject to conditions of sale to be then produced), all those COLLIERIES, with the VEINS, MINES, and SEAMS of COAL, and other MINERALS held with the same, commonly called and known by the name of—

BRITHDIR, CWMDU, AND COURT HERBERT COLLIERIES, situated in the parishes of CADOXON-JUXTA-NEATH and LLANSAMLET, county of GLAMORGAN, containing in the whole about FIVE THOUSAND FOUR HUNDRED ACRES, together with all the ENGINES, PLANT, and MACHINERY belonging thereto.

Full particulars of the leases, and terms under which the leasehold portions are held, and the conditions upon which the property will be sold, are in preparation, and will be ready for delivery in a few days, and can be obtained upon application to JAMES KEMPTHORNE, Esq., Sollicitor, Neath; or to the Auctioneer, Church-place, Neath.

The collieries may be viewed upon application to J. N. MOORE, Esq., Llanrhos, near the premises.

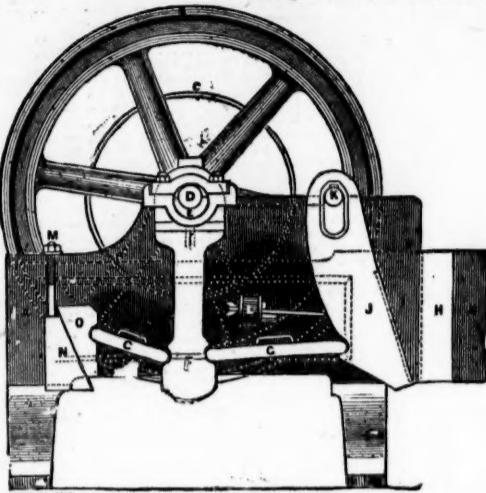
PRELIMINARY ANNOUNCEMENT.

IMMENSE SAVING OF LABOUR.  
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT  
GRINDERS, MCADAM ROAD MAKERS, &c., &c.

## BLAKE'S PATENT STONE BREAKER, OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials:



For circulars and testimonials, apply to—

**H. R. MARSDEN, SOHO FOUNDRY,**  
MEADOW LANE, LEEDS,  
ONLY MAKER IN THE UNITED KINGDOM.

### CAUTION!

## BLAKE'S PATENT STONE BREAKER, In Chancery.

**BLAKE v. ARCHER, NOVEMBER 12, 1867.**

His Honour the Vice-Chancellor Wood having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiff the costs of the Suit.

ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE'S, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

SOLE MAKER IN ENGLAND,

**H. R. MARSDEN, SOHO FOUNDRY, MEADOW LANE, LEEDS.**

TO MINING COMPANIES, MECHANICAL ENGINEERS, MERCHANTS, SHIPPING AGENTS, &c.

## THE TITANIC STEEL AND IRON COMPANY (LIMITED)

MANUFACTURE A VERY SUPERIOR QUALITY OF STEEL FOR

BORERS, ROCK-DRILLING, AND MINING PURPOSES

GENERALLY; ALSO FOR

LATHE TOOLS, TAPS, DIES, DRILLS, PUNCHES, CHISELS, SHEAR BLADES, SNAPS, AND BOILER  
MAKERS' AND SMITHS' TOOLS.

### SOLID CAST-STEEL HAMMERS

CAREFULLY MADE OF BEST CAST-STEEL TO ANY PATTERN.

The Company's STEEL is manufactured according to the processes and under the supervision of Mr. ROBERT MUSHET.

WORKS,—COLEFORD, FOREST OF DEAN. OFFICES,—No. 15, FOREGATE STREET, WORCESTER.

All communications to be sent to the offices.

### ISAAC STOREY AND SON,

MAKERS OF

DOMES AND OTHER FITTINGS FOR LOCOMOTIVE ENGINES,

STILLS, PANS, AND GENERAL COPPER WORK,

IMPROVED WATER GAUGES, BLOW-OFF COCKS, SAFETY VALVES, FUSIBLE PLUGS, &c.,

As recommended by the Steam-Boiler Associations.

GENERAL STEAM WORK, WHEEL VALVES, SLUICE VALVES, COCKS, &c.

IMPROVED GAS VALVES.

### BABBITT'S AND FENTON'S PATENT ANTI-FRICTION METALS.

Wholesale Agents for Bourdon's, Scheffer's, and other good Makers of

### STEAM AND VACUUM GAUGES;

Richard's, McNaught's, and Hopkinson's

### STEAM ENGINE INDICATORS.

Wrought Iron Tubes and Fittings for Steam and Gas Work.

## KNOTT MILL BRASS AND COPPER WORKS, AND AT 24, DEANSGATE, NEAR THE EXCHANGE.

LITTLE PETER STREET,

MANCHESTER.

Illustrated Lists on Application.

Swan Rope Works.

ARNOCK BIBBY, AND CO.,  
CHAPEL STREET, LIVERPOOL,  
MANUFACTURERS OF FLAT and ROUND HEMP and IRON and STEEL  
ROPES for MINING, RAILWAY, and SHIPPING PURPOSES.  
NILLA ROPE of SUPERIOR QUALITY, FIFTY PER CENT. STRONGER  
THIRTY PER CENT. CHEAPER than Russian hemp rope.  
IR ROPE of FIRST QUALITY WIRE, and the HIGHEST STANDARD  
STRENGTH.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS,  
FUNNELS, &c., Plain or Galvanised.

CATTLE TROUGH, IRON CART BODIES, &c., GALVANISED  
OR LEAD SERVICE PIPE, BRASS BALL VALVES, &c.

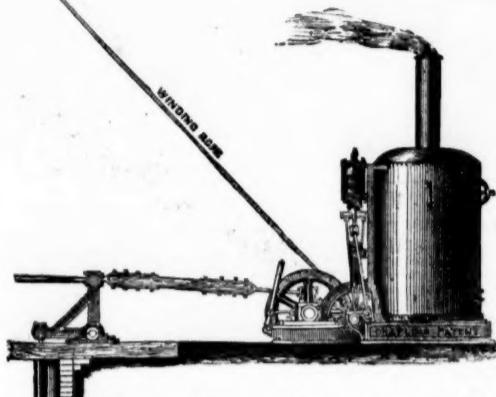
MERCHANTS and SHIPPERS supplied at the usual discount.

HENRY WATSON AND CO.,  
No. 60, VAUXHALL STREET, LAMBETH, LONDON.

**BICKFORD'S PATENT SAFETY FUSE**  
Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at  
the "INTERNATIONAL EXHIBITION" of 1851, in London; at the "IM-  
PERIAL EXPOSITION" held in Paris, in 1855; at the "INTERNATIONAL  
EXHIBITION," in Dublin, 1861; and at the "UNIVERSAL EXHIBITION,"  
in Paris, 1862.

**BICKFORD, SMITH, AND CO.**  
of TUCKINGMILL, CORNWALL, MANUFAC-  
TURERS of PATENT SAFETY-FUSE, having been in-  
formed that the name of their firm has been attached to  
fuse not of their manufacture, beg to call the attention of  
the trade and public to the following announcement:-  
EVERY CO. of FUSE MANUFACTURED by them  
has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of  
GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SE-  
PARATE THREADS as THEIR TRADE MARK.

Prize Medal—International Exhibition, 1862.



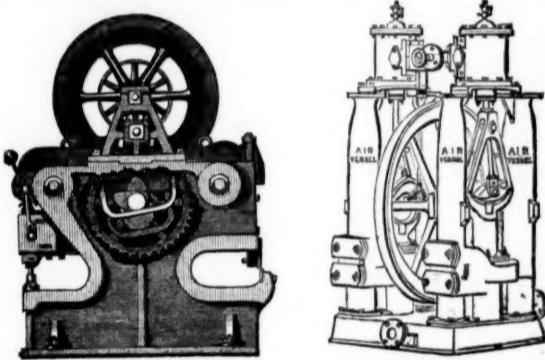
### CHAPLIN'S PATENT PORTABLE STEAM ENGINES, &c., FOR PUMPING AND WINDING.

These engines are SPECIALLY ADAPTED for PITS,  
QUARRIES, &c. They are EXCEEDINGLY SIMPLE in  
ARRANGEMENT and STRONG. NO FOUNDATION of  
CHIMNEY STALK being NECESSARY, they can be  
ERECTED or REMOVED with VERY LITTLE TROU-  
BLE or EXPENSE, and are WELL ADAPTED for  
HOME or FOREIGN USE.

Sizes, from 2 to 25-horse power.

STEAM CRANES, STEAM WINCHES, CONTRACTORS'  
LOCOMOTIVES, HOISTING ENGINES, PUMPING  
AND WINDING GEARING, &c.

ALEXANDER CHAPLIN AND CO.,  
CRANSTONHILL ENGINE WORKS, GLASGOW.



JOHN CAMERON'S  
PATENT DOUBLE CAN LEVER  
PUNCHING AND SHEARING  
MACHINE,  
 $1\frac{1}{4} \times 1\frac{1}{4}$  in.  $\times$  24 in. = 8 tons, £185.

WORKS,  
EGERTON STREET, HULME,  
MANCHESTER.

JOHN CAMERON'S  
STEAM PUMPS,  
From 2 to 12 in. diameter,  
SIMPLE AND DOUBLE-ACTING,  
WORKS,  
EGERTON STREET, HULME,  
MANCHESTER.

THOMAS TURTON AND SONS,  
MANUFACTURERS OF

CAST STEEL for PUNCHES, TAPS, and DIES,  
TURNING TOOLS, CHISELS, &c.  
CAST STEEL PISTON RODS, CRANK PINS, CON-  
NECTING RODS, STRAIGHT and CRANK  
AXLES, SHAFTS and

FORGINGS of EVERY DESCRIPTION.  
DOUBLE SHEAR STEEL FILES MARKED  
BLISTER STEEL, SPRING STEEL,  
GERMAN STEEL,  
Locomotive Engine, Railway Carriage and Wagon  
Springs and Buffers.

SHEAF WORKS AND SPRING WORKS, SHEFFIELD.  
LONDON WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.  
Where the largest stock of steel, files, tools, &c., may be selected from.

A. JEFFERY  
(Eight years with the late W. WILTON,  
St. Day),  
MATHEMATICAL INSTRUMENT  
MAKER,  
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Supplies MINERS' DIALS, CIRCUMFERENTIERS,  
THEODOLITES, LEVELS, CIRCULAR and PLAIN  
PROTRACTORS, CASES of DRAWING INSTRUMENTS,  
SCALES, MEASURING CHAINS AND  
TAPES, ASSAYERS' SCALES and WEIGHTS,  
ENGINE COUNTERS, &c., &c., of guaranteed  
quality and accuracy, at moderate prices.

Repairing in the above branches promptly  
attended to.

THE NEWCASTLE CHRONICLE AND NORTHERN  
COUNTIES ADVERTISER. (ESTABLISHED 1764.)  
Published every SATURDAY, price 2d., or quarterly 2s. 2d.  
THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER  
Published every MORNING. Price 1d.  
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D. WATSON (of the Lock Hospital), F.R.A.S., Member of the  
College of Physicians and Surgeons, on the SELF-CURE of NERVOUS  
and PHYSICAL DEBILITY, Lowness of Spirits, Loss of Appetite, Timidity, In-  
capacity for Exertion, &c., with means for perfect restoration. Sent free for  
two stamps by Dr. WATSON, No. 1, South-crescent, Bedford-square, London.  
Consultations daily from 11 till 3, and 6 till 8; Sundays, 10 till 1.

Just published, post free for two stamps.  
WONDERFUL MEDICAL DISCOVERY, demonstrating the  
true causes of Nervous, Mental, and Physical Debility, Lowness of Spirits,  
Indigestion, Want of Energy, Premature Decay, with plain directions for per-  
fect restoration to health and vigour, WITHOUT MEDICINE. Sent free on re-  
ceipt of two stamps, by W. HILL, Esq., M.A., Berkeley House, South-crescent,  
Russell-square, London, W.C.

## Contract for Coals for Brickmaking at Portsmouth.

CONTRACT DEPARTMENT, ADMIRALTY, SOMERSET HOUSE.



THE COMMISSIONERS for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, do hereby give notice that on TUESDAY, the 7th January next, at Two o'clock, they will be READY TO TREAT with such persons as may be willing to CONTRACT for SUPPLYING and DELIVERING at the Portmouth Dockyard Extension Works,

## THREE THOUSAND TONS OF COALS FOR BRICKMAKING.

A form of the tender and conditions of contract may be seen in the lobby of the Storekeeper-General's Department, Admiralty, Somerset House. No tender will be received after Two o'clock on the day of treat, nor will any be noticed unless the party attends, or an agent for him duly authorised in writing.

Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Coals for Portsmouth," and must also be delivered at the Department of the Storekeeper-General, Admiralty, Somerset House, accompanied by a letter signed by two responsible persons, engaging to become bound with the person tendering in the sum of £25 per cent. on the value for the due performance of the contract.

By order, — ANTONIO BRADY,

Registrar of Contracts and Public Services.

Contract Department, Admiralty, Somerset House, Dec. 24, 1867.

## Tender for Coals.

THE STIPERSTONES MINING COMPANY (LIMITED) are PREPARED TO RECEIVE TENDERS for STEAM COAL, for six or twelve months. To be delivered at Minsterley Station, Salop.

The quantity required will be from 150 to 200 tons monthly. Tenders to state price per ton, and terms of payment, and to be sent to the company's offices, St. John's-hill, Shrewsbury, by Ten A.M., on or before Monday, the 13th inst., marked outside "Tender for Coals."

By order,

EDWARD BRISTOWE, Secretary.

## Pumping Engines for Sale.

THE COMMISSIONERS OF POLICE OF ABERDEEN are prepared to SELL THE TWO STEAM-ENGINES, with BOILERS and PUMPS complete, at the Bridge of Dee, used in pumping the water to the town, but which are now superseded by the gravitation scheme. They are of the single-acting kind, 50-horse power each. The diameter of the cylinders is 40 inches; length of stroke, 6½ feet; the pumps are 15 inches diameter, and of the same stroke as the cylinders. The beams are about 21 feet in length, with parallel motions at each end. There are three boilers of the wagon-shaped kind, 17 feet long, 6 feet high, and 5 feet wide. They have been worked with a pressure of 7 lbs. per square inch, and two boilers drive one engine.

The engines, which are in good working order, may be seen on application at the Police Chambers; and written offers are to be lodged with the Clerk of Police there, on or before Saturday, 18th January, 1868. The purchaser must be at the sole cost of removing the engines and boilers. The Commissioners do not guarantee acceptance of any offer, unless they deem it satisfactory.

JAMES VALENTINE, Clerk of Police.

Police Chambers, Aberdeen, Dec. 20, 1867.

WALTER TREGELLAS, 122, BISHOPSGATE STREET WITHIN, E.C., DEALS IN ALL DIVIDEND and sound PROGRESSIVE MINE SHARES, either for cash or the fortnightly settlement at close market prices.

Has BUSINESS in St. John del Rey, Don Pedro, Anglo-Brazilian, Frontino, Rossa Grande, Chontales, Port Phillip, and Pestarena.

WALTER TREGELLAS can confidently recommend the Taquaril Gold Mine.

Full and reliable information on application.

Bankers: Alliance Bank.

MR. D. STICKLAND, M.E., having had upwards of 40 years' mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE GOOD ADVICE thereon.

Mining, Railway, and other Shares bought, sold, or exchanged. Shares for sale in mines and quarries that will pay 15 to 20 per cent. per annum.

Offices, 5, Finsbury-street, London, E.C.

## MANCHESTER, AND WEST END OF LONDON.

MR. W. HANNAM, MINING, SLATE QUARRYING, INSURANCE, AND GENERAL SHAREBROKER, ROYAL INSURANCE BUILDINGS, KING STREET MANCHESTER; and 449, STRAND, LONDON, W.

INSTANTANEOUS COMMUNICATION with the STOCK and MINING EXCHANGES, avoiding the delay and annoyance of visiting the City to ascertain prices. A Monthly Investment Circular on application.

M R. T H O M A S T H O M A S, ASSAYER & C., COPPER ORE WHARVES, SWANSEA.

ASSAY OFFICE AND LABORATORY, NO. 2, CROWN CHAMBERS, CROWN COURT, THREADNEEDLE STREET, CONDUCTED BY W. T. RICKARD, F.C.S., &c.

(Late MITCHELL and RICKARD).

Assays and analyses of every description of mineral and other substances, manures, &amp;c.

Gentlemen going abroad for mining purposes instructed in assaying, and the most improved methods of reducing gold, silver, and other metals.

MINING PROPERTIES INSPECTED AND REPORTED ON.

M R. J. S. M E R R Y, ASSAYER AND ANALYTICAL CHEMIST, SWANSEA.

E LFORD, W ILLIAMS, A N D C O., COPPER ORE WHARFINGERS, SHIP BROKERS AND COAL EXPORTERS, METAL AND GENERAL COMMISSION AGENTS, SWANSEA.

ELFORD, WILLIAMS, and Co. having erected an assay office, and engaged the services of a practical Cornish assayer, who will devote his whole time to this branch of their business, they are now in a position to make correct assays of silver, copper, and other mineral ores, on the most moderate terms.

NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, 16, OOZELL STREET NORTH, BIRMINGHAM.

STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—REFINED METALLIC NICKEL.

REFINED METALLIC BISMUTH.

OXIDE OF COBALT.

GERMAN SILVER—IN INGOTS, SHEET, WIRE, &amp;c.

NICKEL AND COBALT ORES PURCHASED.

GOLDENHILL, COBALT, NICKEL, COLOUR, BORAX AND CHEMICAL WORKS, NEAR STOKE-UPON-TRENT, STAFFORDSHIRE.

JOHN HENSHALL WILLIAMSON, MANUFACTURER AND REFINER, Purchaser of Borate of Lime and Tincal.

Teacher of Practical Mining in the late Mining School of Cornwall, and Principal of the Engineering Academy, 36, Upper Parliament street, Liverpool!

CONSULTING RAILWAY AND MINING ENGINEER, MR. TREDINICK, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON (Office of Registry of British and Foreign Mines). Vendors introduced to purchasers upon terms as may be agreed. Registration fee, 2*s*.

Plans and sections, with reports, carefully preserved, and open to inspection for a fee of 5*s*.

Railways and Mines should be selected with great caution, and those who hold will do well earnestly to look into the character and merits of those they now possess. The uninitiated should approach these securities only through the aid of practical authorities. Mr. TREDINICK can be confidently consulted, either personally or by letter, for fee of 2*s*, and the services of efficient and practical brokers introduced, if required.

BRITISH, COLONIAL, AND FOREIGN PATENTS, REGISTRATION OF DESIGNS, COPYRIGHTS, TECHNICAL TRANSLATIONS, DRAWINGS, &c.

M R. MICHAEL HENRY, Memb. Soc. Arts, Assoc. Soc. Engineers, Author of the "Inventors' Almanac," and the "Defense of the Present Patent Law."

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Translations of Catalogues, Trade Notices, and Circulars for the approaching Paris Exhibition. Mr. HENRY has had special experience in technical French, and in French Manufacturing and Commercial Matters.

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## THE MINING SHARE LIST.

## BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Pershare.	Last paid.
1500 Alderley Edge, c, Cheshire*	... 10 0 0 ...	... 9 2 8 ...	0 5 0 ...	Nov. 1867			
200 Bedallack, t, c, St. Just	91 5 0 200	... 488 15 0 ...	5 0 0 ...	May 1867			
4000 Brookland, t, Cardigan*	11 0 0 ...	... 0 7 6 ...	0 2 6 ...	Dec. 1867			
1000 Bryn Gwyn, t, Mold*	... 8 17 0 ...	... 10 0 0 ...	10 0 0 ...	Nov. 1867			
500 Cashwell, t, Cumberland*	2 10 0 ...	... 0 1 6 ...	0 1 6 ...	Aug. 1866			
916 Cargoll, s-t, Newlyn	15 5 7 ...	... 13 15 0 ...	1 0 0 ...	Feb. 1866			
509 Creggbrawns and Penkevil, t	—	... 1 0 0 ...	1 0 0 ...	Oct. 1867			
867 Cwrt Erynn, t, Cardiganshire*	7 10 0 ...	... 24 18 0 ...	1 0 0 ...	Oct. 1867			
128 Cymynd, t, Cardiganshire*	60 0 0 ...	... 174 10 0 ...	5 0 0 ...	June 1867			
250 Derwent Mines, s-t, Durham	300 0 0 ...	... 150 10 0 ...	2 0 0 ...	Dec. 1867			
1024 Devon Gr. Consols, c, Tavistock	1 0 0 ...	... 1081 0 0 ...	7 0 0 ...	Oct. 1867			
656 Ding Dong, t, Flint	49 14 6 ...	... 0 10 0 ...	0 10 0 ...	Sept. 1867			
6144 East Caradon, c, St. Cleer	2 14 6 ...	... 4 14 5 ...	0 0 0 ...	Dec. 1867			
303 East Darcon, c, St. Cleer	32 0 0 ...	... 150 10 0 ...	2 0 0 ...	Dec. 1867			
128 East Pool, t, c, Pool Illogan	24 5 0 ...	... 417 10 0 ...	5 0 0 ...	Nov. 1867			
1906 East Wheal Lovell, t, Wendron	3 9 0 ...	... 3 11 6 ...	0 10 0 ...	Oct. 1867			
280 Foxdale, t, Isle of Man*	25 0 0 ...	... 71 0 0 ...	0 10 0 ...	Sept. 1867			
5000 Frank Mills, t, Christow	3 18 6 ...	... 3 5 6 ...	0 5 0 ...	Feb. 1866			
15000 Great Laxey, t, Isle of Man*	4 0 0 ...	... 7 15 0 ...	0 10 0 ...	Dec. 1867			
5000 Great Wheal Vor, t, c, Helston	40 0 0 ...	... 12 8 0 ...	0 7 6 ...	Dec. 1867			
1024 Herdstock, t, near Liskeard	8 10 0 ...	... 43 10 0 ...	1 0 0 ...	Oct. 1867			
6000 Hindston, c, Calstock	5 10 6 ...	... 0 10 0 ...	0 5 0 ...	April 1866			
4000 Ilkisburn, t, Cardiganshire	18 15 0 ...	... 498 10 0 ...	0 0 0 ...	Dec. 1867			
3000 Mae-y-Safn, t, Flint*	29 0 0 ...	... 3 0 0 ...	1 0 0 ...	Dec. 1867			
9000 Marke Valley, c, Caradon	4 10 6 ...	... 4 1 0 ...	0 4 0 ...	Oct. 1867			
30000 Minera Boundary, t, Wrexham*	1 0 0 ...	... 0 13 0 ...	0 3 0 ...	Mar. 1866			
20000 Mining Co. of Ireland, c, t, cl.	7 0 0 ...	... 0 6 6 ...	0 2 6 ...	Jan. 1866			
40000 Myndy Iron Ore*	3 5 0 ...	... 0 6 6 ...	0 2 6 ...	Jan. 1866			
20000 Parys Mines, c, Anglesey*	50 0 0 ...	... 157 10 0 ...	5 0 0 ...	Jan. 1866			
12800 Prince of Wales, t, Calstock	8 12 6 ...	... 53 5, 55s.	0 3 6 ...	0 1 0 ...	Nov. 1867		
6000 Prosper United, t, c, St. Hilary	8 14 0 ...	... 0 5 0 ...	0 5 0 ...	Feb. 1867			
1120 Providence, t, U. Ny. Lelant	10 6 7 ...	... 84 2 ...	0 15 0 ...	Nov. 1867			
512 South Caradon, c, St. Cleer	1 5 0 ...	... 568 10 0 ...	6 0 0 ...	Oct. 1867			
6000 South Darcon, t, Cardigan*	3 6 6 ...	... 0 8 6 ...	0 1 6 ...	Oct. 1867			
496 So. Wh. Frances, c, Illogan	18 18 9 ...	... 25 27 1/2	12 13 0 ...	Nov. 1867			
508 Summer Hill, t, Mold	3 13 6 ...	... 1 15 0 ...	0 7 6 ...	Dec. 1867			
6000 Tincroft, c, t, Pool Illogan	9 0 0 ...	... 13 14 ...	19 1 0 ...	Nov. 1867			
2000 Trumpet Cons., t, Helston	11 10 0 ...	... 12 0 0 ...	1 2 0 ...	Dec. 1867			
3000 W. Chiverton, t, Perranzabuloe	10 0 0 ...	... 66 68 ...	23 7 6 ...	Dec. 1867			
5000 West Godolphin, t, c, Breage	0 1 0 ...	... 0 2 0 ...	0 2 0 ...	Dec. 1867			
400							